The Orchadian

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Official Journal of the Australasian Native Orchid Society Inc.

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Dendrobium speciosum 'Ivory Star x 'Daylight Moon' Photo by Peter Adams

The Orchadian

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CONTENTS

Editorial Peter Adams 396
President's Report Sheryl Lawson 397
Shows and Events 437
ANOS Awards 438
Groups Directory 439

Articles

Yellow Sarcanthinae Breeding David Butler 398
Australian Orchids at the Diamond Festival of Orchids 2016 Peter Adams 402
Growing *Dendrobium* section *Spatulata* in Brisbane, Queensland Robert Reitano 408
The ANOS Victoria Conservation Group – a Personal View Neil Anderton 417
Dendrobium John's Charm – is it or isn't it? Dave Groffen 420
Keith Skaines: Stalwart of the Orchid Community Roslyn Capell 422
Dendrobium speciosum at the ANOS 8th Conference and Show 2016 Peter Adams 428
Dendrobium tetragonum hybrids at ANOS 8th Conference and Show 2016 Roslyn Capell 433

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Please include your contact information for communication and publication.

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Weekend	Monday	Tuesday	Wednesday	Thursday	Friday
1st Week		Townsville		Beenleigh	Toowoomba Victoria
2nd Week	Western Australia	Illawarra Kabi	Central Coast Geelong	Mackay & District	
Far North Coast (3rd Saturday)	3rd Week	Warringah		Macarthur & District	Sydney
Mid-North Coast (3rd Sunday)	4th Week	South Australia	Melbourne - Suburbs	Newcastle	

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Products available to purchase include ANOS awards CDs. Details are available to view on the website.

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Personal membership is achieved by a subscription to *The Orchadian.*

Members receive four issues a year and have full voting rights at the AGM.

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Editorial

The Kempsey Speciosum Spectacular developed from a concept of Ted and Winsome Walmsley to become a consistently successful annual event. In addition to a large display of *Dendrobium speciosum* it now includes Australian and Australasian species and hybrids that are at their best on the first weekend in September. There is not much flexibility in timing of flowering with Australian orchids, with weather uncertainty and this weekend has proved to offer the best chance for optimal showing.

This year the event was associated with the ANOS National Conference and Show, providing a great opportunity for enthusiasts to meet together for discussion of many subjects and promotion of subscriptions and activities that are key to the survival of ANOS Inc. It is a big county and no venue is ideal for everyone. Kempsey is about as central as we can get on the east coast, and part of the rise in popularity has been the access, although some people make a long journey from distant states.

Large cities have become increasingly difficult for staging national events due to rising costs, and at times groups do not have enough resources for a successful event. Smaller regional centres appear to offer opportunities if the organizing group has people who live more distantly. This year's event was a great success, attended by 200 or more people, with a high level of participation. Selected plants from the show are presented in this issue. Show results can be accessed on the website: 8thanosconference.org.au.

There have been major developments in *Sarcochilus* breeding of highly coloured plants in recent years. David Butler provides an update and summary of yellow Sarcanthinae (Aeridinae) breeding.

The Judging Subcommittee of ANOS Inc. is working on revision of the Judging Handbook, and will provide updated guidelines on judging particular classes of plants in the future.

Cultural information has always been an important feature of *The Orchadian*. Robert Reitano writes of his personal experience with *Dendrobium* section *Spatulata* which should be helpful particularly for those in northern states. It is a lot more difficult for those in southern states and perhaps not worth the effort as results rarely match those possible nearer the natural distribution of the species.

The Diamond Festival report shows that Australian and Australasian orchids can match exotics in judging, having won Grand Champion and several other classes. Large single flowered exotics have an advantage over Australian multi-flowering species and hybrids, and making comparisons between diverse styles in judging is far from resolved. Plants with many racemes and smaller flowers are penalized heavily by some judges when a small number of flowers are imperfect. Single flowers should be almost flawless to justify success over good multiflorals. Currently there are no clear guidelines for judging comparisons in general judging, but ANOS judging has a more level playing field as the great majority of exhibits are multifloral.

Themes recurring in future issues of *The Orchadian* will highlight key figures in Australian orchids, and in this issue Ros Capell writes about Keith Skaines. Dave Groffen writes about a hybrid where there has been some confusion about parentage. Conservation of terrestrial orchids is threatened by expansion of cities and regional areas. ANOS Vic. Conservation activities are updated by Neil Anderton, and similar contributions would be welcome from other states and areas.

Peter B. Adams

D. speciosum var. *pedunculatum* 'A43'

President's Report

I have just returned from the 8th ANOS Conference and Show, held in conjunction with the Kempsey Speciosum Spectacular. Congratulations are due to the organizers, in particular ANOS Mid North Coast and the conference team led by John Zietsch, as well as Ted and Winsome Walmsley and their family for a very well run and successful event. We were fortunate that the rain held off, although at one stage the wind was quite threatening. It is a great chance to meet fellow enthusiasts from across the membership. The plants were spectacular, and visitors enjoyed the Friday evening presentation by Gerry Walsh, the day of guest speakers and the Sunday field trips. A number of quality and cultural ANOS awards were given, and details will be available on our website and in the next edition of *The Orchadian*. Group representatives had the chance to meet with the new committee after the AGM.

At the AGM Tony Clarke stepped down as President, having served his 3 year term. I thank him on your behalf for his hard work and commitment. There were two retiring committee members – John Zietsch and Anne-Maree Mitford who are thanked for their contributions. We welcome three new members to the committee – Callyn Farrell, Barry Dudman from Tasmania and Wally Heath from Western Australia, as well as Roslyn Capell and Malcolm McGowan who have served on committee previously. Dave Groffen takes on his new role of National Registrar of Judges, Rick Winch stays on as Secretary, while Peter Adams is Vice President and has agreed to continue as Editor. I thank everyone for their willingness to work on Council. I step up to the role of President having been on committee for a number of years, three years as Vice President. I am confident the new committee will be energetic and creative in tackling the challenges we face, and provide good management and leadership.

Our next Conference and Show is scheduled for 2019. Committee welcomes expressions of interest from any group or groups at this time. The most recent conference was held in association with an existing annual show and this is an option to reduce the workload on an organizing committee. Council is also prepared to listen to other ideas. I encourage you all to consider the challenge.

Other areas that have been identified for Council consideration are improved communication with both groups and individual members, and a drive for new memberships so that we can continue to produce *The Orchadian* at the high standard we are delivering. We will keep you informed of the progress of these discussions and welcome input and ideas.

There has been a lot of hard work by the ANOS judging group to train a significant number of new judges (which takes a number of years). This provides better opportunities for growers to have their plants judged, and I thank the trainers and the trainees for their ongoing contribution of significant personal time, hard work and dedication in a voluntary capacity. I also acknowledge the work that Ray Clement has put in as National Registrar of Judges, bringing our records up to date and supporting the training programme.

I thank Peter Adams for continuing as Editor of *The Orchadian*, having taken it on at short notice in November last year. A number of members are providing backup and support required to produce each issue. Some groups and members are not aware that individual membership of ANOS Inc. is through subscription to *The Orchadian*.

The lucky travellers who have booked through the ANOS Travel Club for the Western Australian trip (arranged and led by John Zietsch and Ray Clement) will be heading off shortly and we look forward to the reports and photographs of their adventures.

I look forward to meeting with as many groups and individual members as I can during the term of my presidency and obtaining your input as to how we can work together toward the goals of ANOS Inc., which include to promote the appreciation, culture, and propagation of Australian and Australasian orchids, to promote their conservation and preservation in their natural habitat and to promote scientific and cultural knowledge.

Sheryl Lawson

Yellow *Sarcanthinae* Breeding – An Update

Text and photographs by David Butler
david.greenvista@internode.on.net

After many years of careful hybridising, *Sarcochilus* colours have reached an exciting milestone, with the development of show-quality flowers in eye-catching yellows and autumn shades. To date the yellow colours have resulted from two very disparate approaches to achieving the same goal. One has been by breeding from *S. hartmannii* 'Red Snow' to produce albinistic offspring, and the other by breeding from *S. hirticalcar* and *S. dilatatus*, which have the ability to pass on yellow colours. Hybridisers are now crossing flowers from these two breeding lines together, with the progeny showing a lot of promise and a whole new avenue for development.

Background

Yellow breeding from *S. hartmannii* 'Red Snow' resulted from the early discovery that its hybrids are occasionally albinistic in nature, and this trait continues when used in further hybridising. The early albinistic hybrids were white with yellow centres, but keen breeders, particularly Neville Roper, persevered and have achieved great results. These 'poached eggs' were further developed by crossing with each other to finally give the well coloured flowers so much admired today.

Yellow breeding from the diminutive *S. hirticalcar* and *S. dilatatus* has required several generations to reach the stage where flowers are of good size, filled-in and strongly yellow. This is the work I have been doing, and the first step saw *S. dilatatus* crossed with *S. hartmannii*. The resulting *S.* Aussie Dawn was crossed with *S.* Riverdene to produce *S.* Misty. These are effectively *S.* First Light with a touch of *S. hirticalcar*, the combination of the two twig epiphytes enhancing the potential for success in breeding yellows. The next step created *S.* Galaxy by crossing *S.* Misty with *S. hartmannii*. The better coloured *S.* Galaxy seedlings were then used in the further breeding of yellows, and also in crossing reds and yellows for striking bi-colours.

I began breeding the two streams together ten years ago when neither type displayed the large colourful flowers we see today. At that time the best I could use for parents were the albinistic *S.* Snowhart 'Yellow 2001', *S. hartmannii* 'Yellow Spot', and my best coloured flower *S.* Misty 'Spangles'. The progeny from the early combined crosses were good, but full yellows rare, a situation which improved greatly when better, more colourful parents became available.

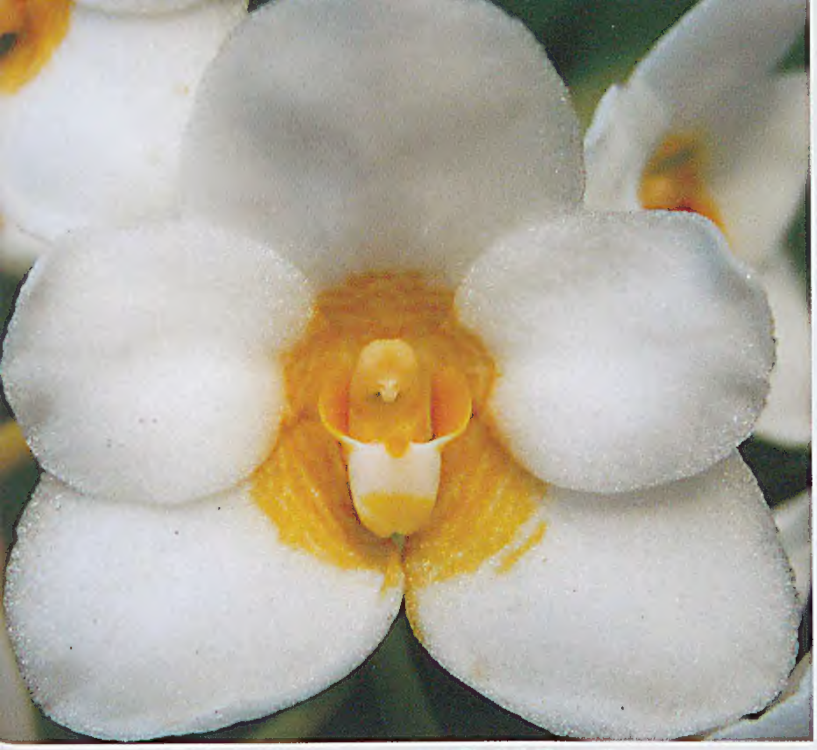
Observations of the two types – Pros and Cons

Yellow flowering hybrids developed from *S. hirticalcar/dilatatus*:

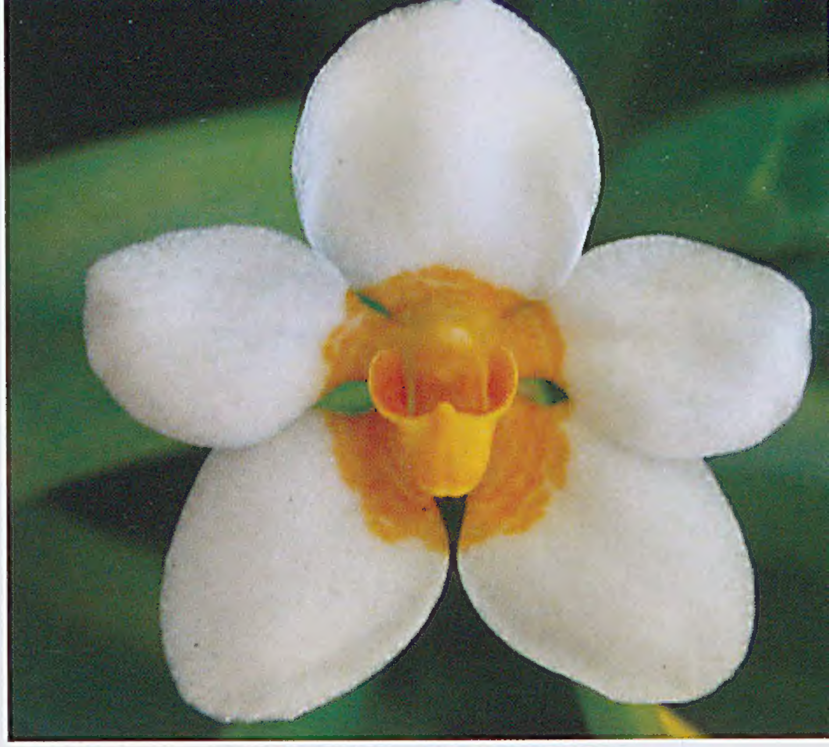
- Have clear yellow flowers with a degree of red in the centre. They cannot be mistaken for the albinistic type.
- Have large labellums which give balance to the increased size of modern hybrid flowers.
- Flowering times often occur throughout the year.
- Plants often grow monopodially rather than producing side growths, reflecting their twig epiphytic origins.
- Have shown a tendency to act only as the pod parent making it difficult to cross my yellows among themselves.
- Flowering can be a bit sequential with only a few flowers open at once, but this tendency lessens with each generation.

Yellow flowering hybrids derived from albinistic breeding:

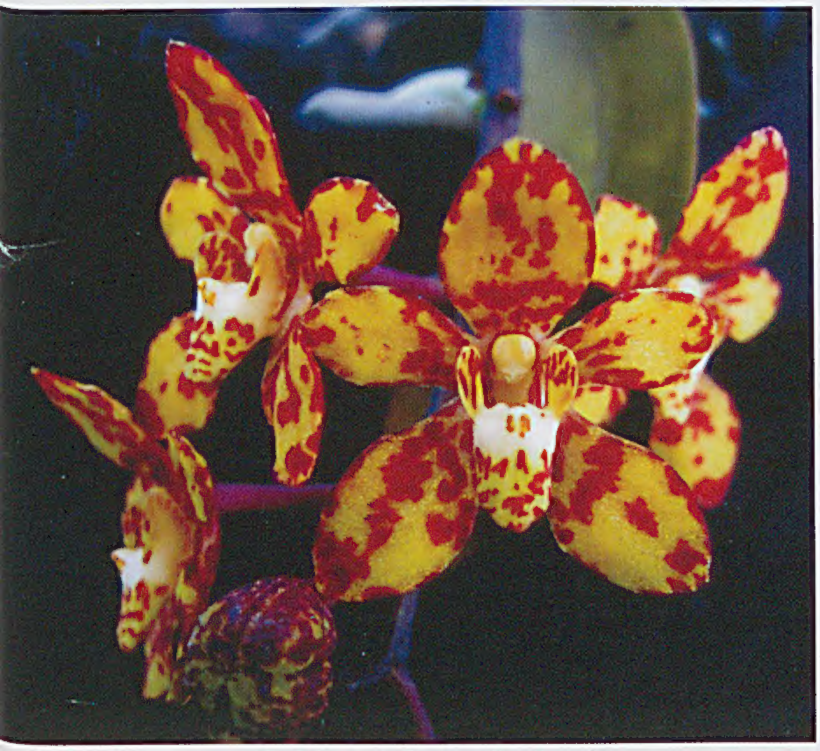
- The plants produce plenty of side growths and clump up quickly.
- For me they hybridise readily as the pollen parent and less so as the pod parent but other hybridisers may not have this problem.
- The flowers are usually not a clear yellow colour but appear white closely overlaid with bars of colour and noticeably lack any red.



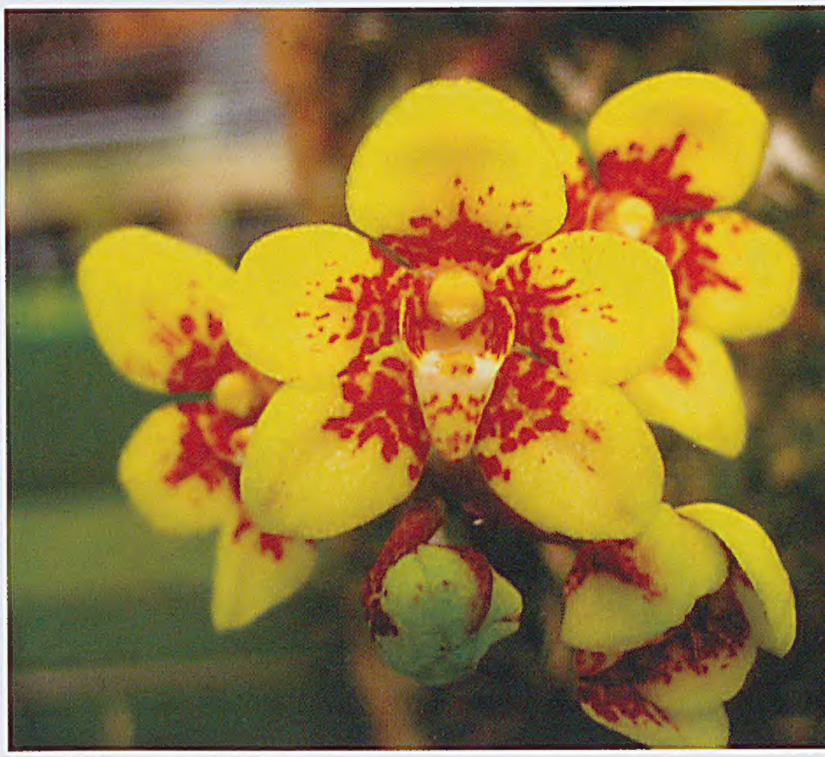
S. hartmannii 'Gold Spot'



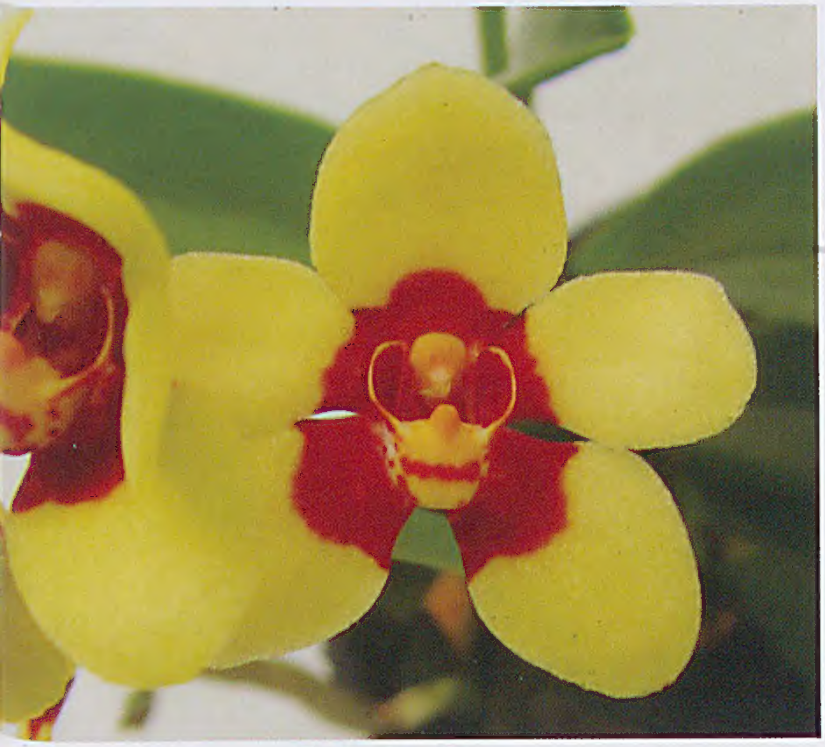
S. Snowhart 'Yellow 2001'



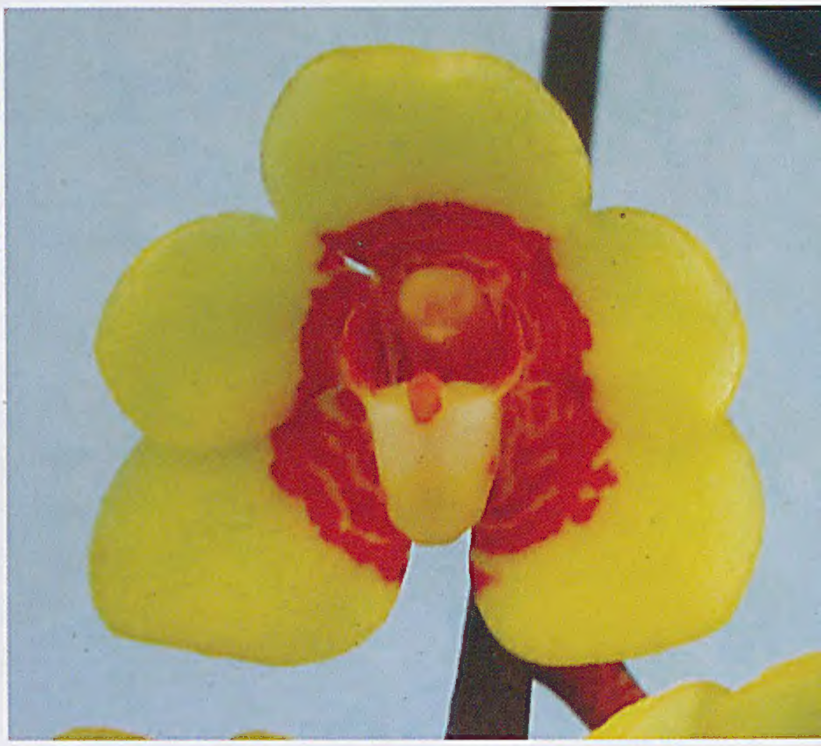
S. Misty 'Spangles'



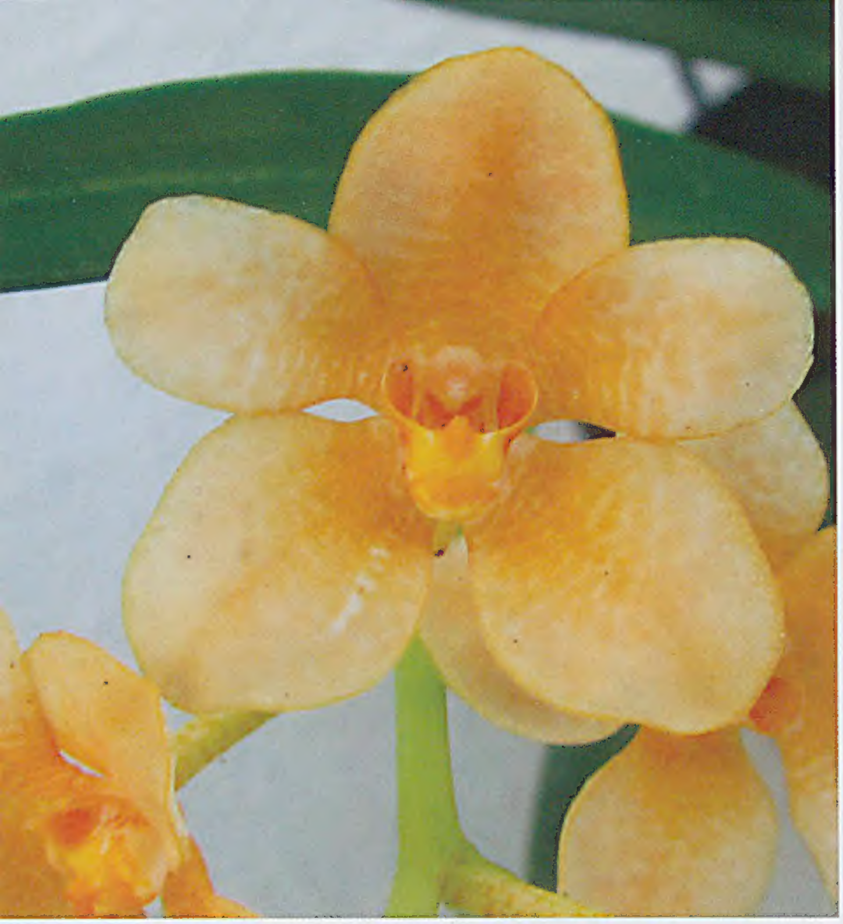
S. Galaxy



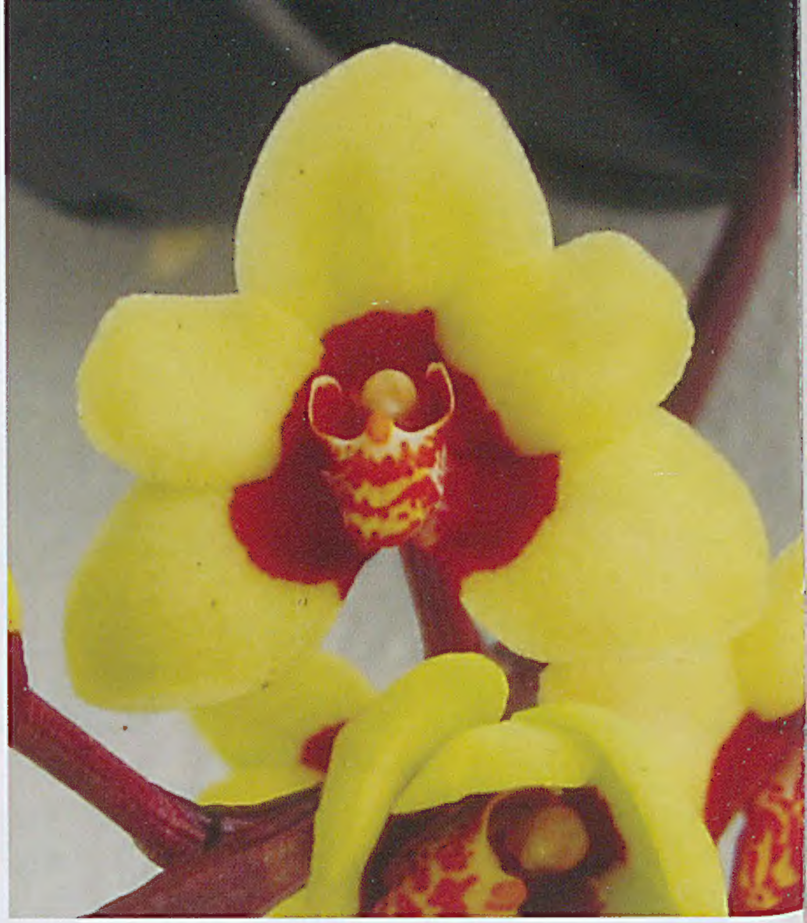
S. Amber Star



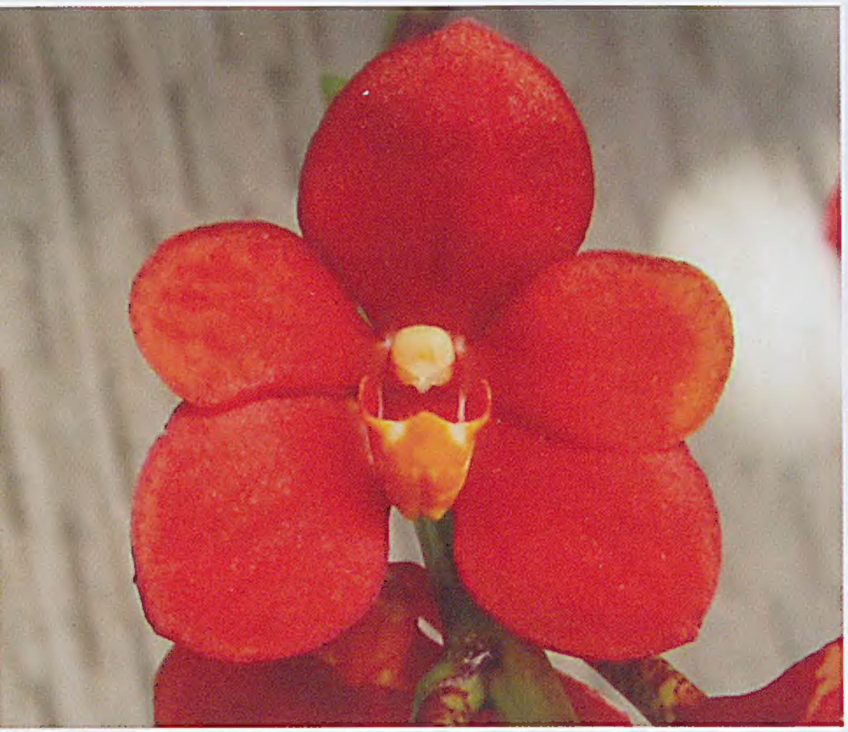
S. Cosmic Snow 'Yellow 2013'



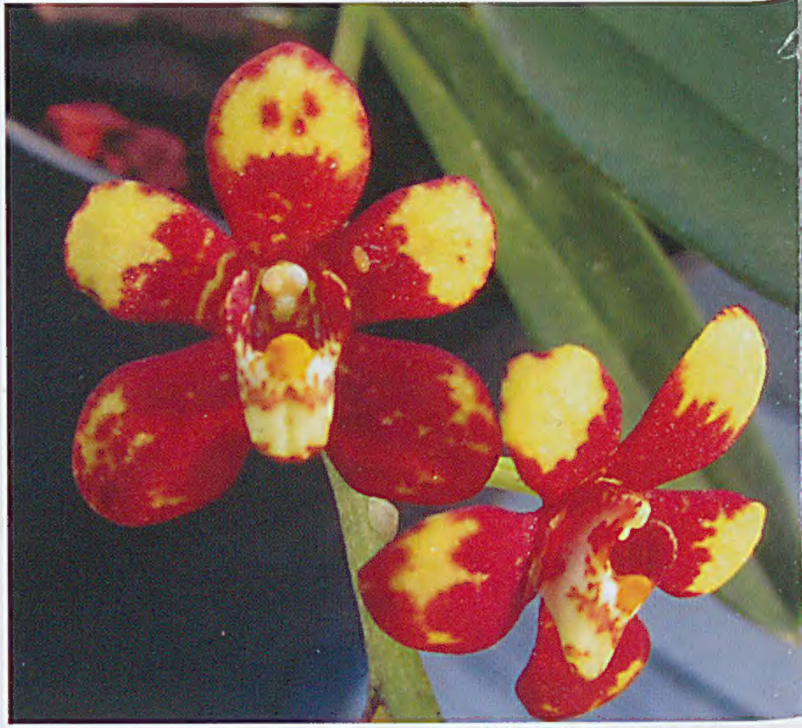
S. Parma 'Sweet'



S. Sundaani's Galaxy

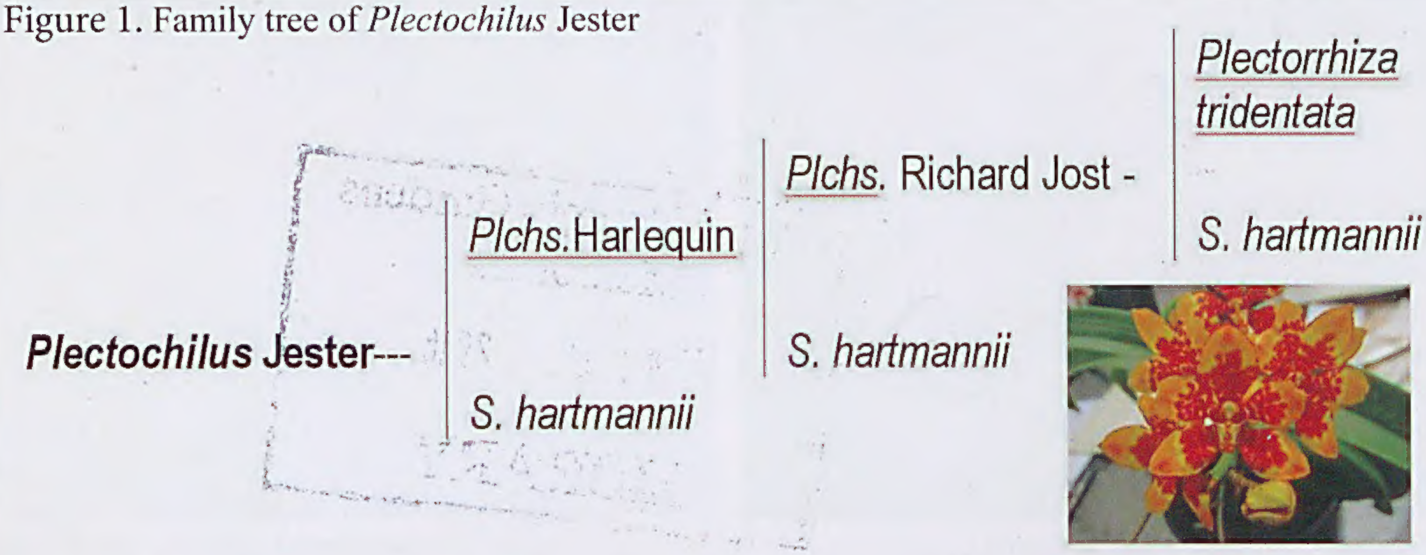


Plectochilus (*Plchs.*) Charisma 'Golden Tan'



S. Amber Dawn 'Gold 2015'

Figure 1. Family tree of *Plectochilus* Jester



- They are predominantly spring flowering.
- Racemes may be a bit weak.

Hybrids which I have flowered

The earlier crosses have flowered and each spring is exciting as seedlings of the later ones mature. Those of mine which have flowered are:

Plectochilus Charisma (*Plchs.* Harlequin x *S.* Heidi)

Plchs. Jester (*Plchs.* Harlequin x *S. hartmannii*) (see Fig.1 for breeding line)

S. Amber Dawn (*S.* Velvet Dawn x *S.* Amber)

S. Amber Star (*S.* Galaxy x *S.* Amber)

S. Cosmic Snow (*S.* Galaxy x *S.* Snowhart)

S. Snow Mist (*S.* Misty x *S.* Snowhart)

S. Space Girl (*S.* Galaxy x *S.* Heidi)

S. Space Race (*S.* Galaxy x *S. hartmannii*) (see Fig. 2 for breeding line)

S. Sundaani's Galaxy (*S.* Galaxy x *S.* Parma)

Family Trees

When drawing up family trees it soon became apparent that a major role is played by *S. hartmannii*, a parent noted for washing out colours rather than enhancing them. This tendency is partly overcome by using the yellow-centred forms of the species, such as *S. hartmannii* 'Yellow Spot' ('Vacy' x 'Red Snow') or *S. hartmannii* 'Ginger Snow' ('Red Snow' x 'Yellow Snow'), two examples often used by me and prominent in the trees shown here. In hybridising based on *S. hirticalcar* and other diminutive coloured *Sarcochilus* the use of *S. hartmannii* also improves flower size and shape, as well as other qualities outlined above.

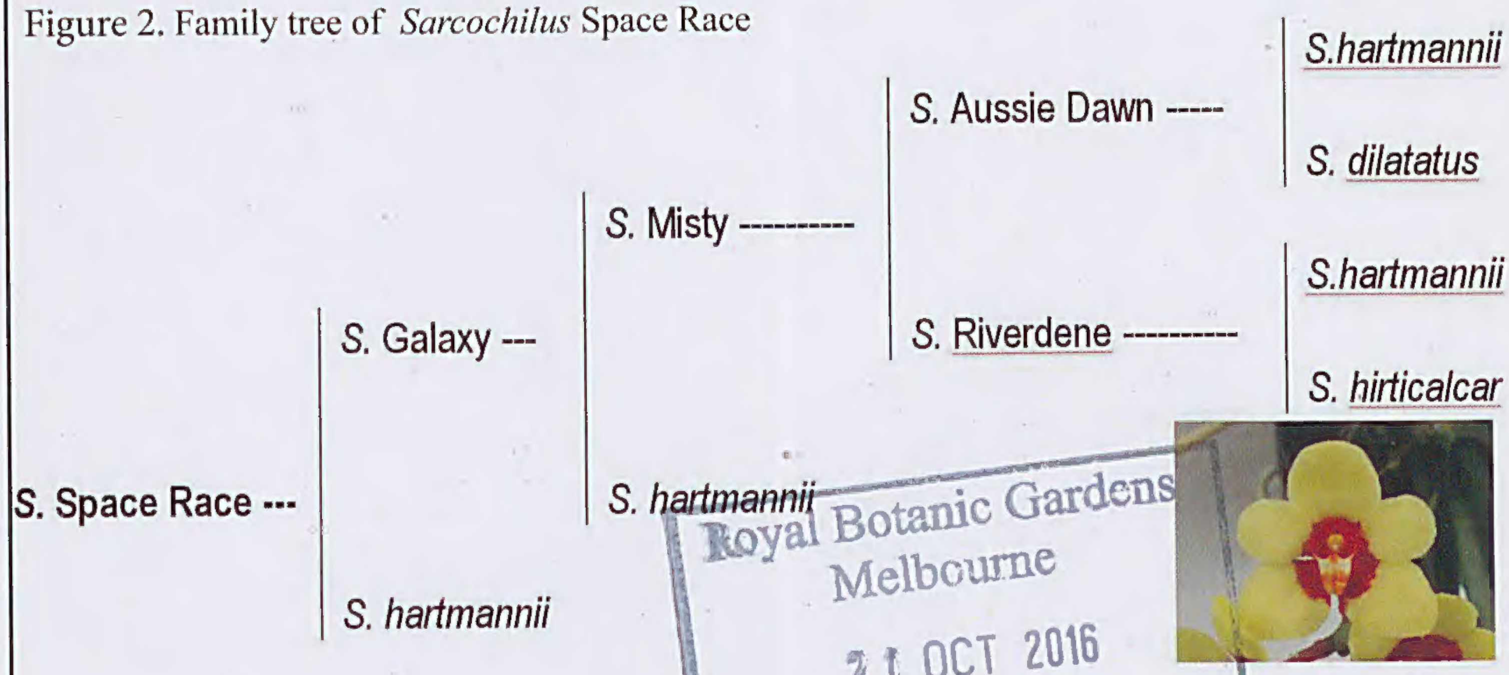
Progress to date and in the future

My experience has shown that a lot is to be gained by bringing the two breeding lines together as the deficiencies of each seem to be helped by strengths in the other. The resultant hybrids have displayed a good percentage of clear yellow, red-centred flowers of pleasing shape, which are carried on firm racemes. The plants grow strongly and clump up quickly, so although it is early days, the future looks bright.

Further reading about hybridising for yellow may be found in *The Orchadian*, September 2008 and March 2015.

David Butler of Green Vista Orchids has been an Australian orchid commercial breeder and grower for many years.

Figure 2. Family tree of *Sarcochilus* Space Race



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Australian Orchids at Diamond Festival of Orchids 2016

Text and photographs by Peter B. Adams
gallangowan@optusnet.com.au

There are some outstanding Australian and Australasian plants exhibited at general shows, particularly at combined group events. The triennial Orchid Festival is held by the Sub -Tropical Orchid Council of Queensland (STOCQ), and was hosted on 11-12th June by Nambour Orchid Society. The benches featured *Dendrobium* section *Spatulata* species and hybrids, with some sect. *Phalaenanthe* (mainly hybrids), New Guinea orchids and miscellaneous species and hybrids. Organizers have a challenging preliminary task of determining parentage of the dendrobiums to divide them into Australian and non-Australian classes. At ANOS shows and meetings there is a similar process to identify plants for Australian and Australasian classes according to the defined ANOS territory.

A considerable number of hybrids based predominantly on Australian species contain a small percentage of Asian species, particularly in sect. *Spatulata* and *Phalaenanthe*, which make them ineligible for ANOS judging. There has been a suggestion that hybrids containing a very small component of exotic species could be made eligible for ANOS judging. The alternatives are to not exhibit them at all at ANOS events as at present, have non-competitive displays or consider a separate Australasian /exotic class for hybrids where ANOS territory plants clearly predominate. Where a species involved extends beyond the ANOS boundary it is usually uncertain whether a particular plant is eligible for ANOS judging.

In this report I have included some hybrids exhibiting dominance of Australasian species over exotics.

Dendrobium Cherub x *D. tangerinum*

This large plant was awarded Best *Dendrobium* and Grand Champion. It is an unregistered Australasian sect. *Spatulata* hybrid with long arching racemes of large, glossy purple and brown flowers, with an attractive labellum displaying forwards. The forelobe is green and the labellum has a raised callus with pale purple on a white background and two prominent anterior white horns. The plant was not staked, and despite a heavy floral load the flowers presented well.

Dendrobium Cherub is *D.* Peter Peterson (*D. discolor* x *D. nindii*) x *D. carronii*. The red and purple colour and long twisted segments of *D. carronii* are dominant in the hybrid, and *D. carronii* also reduces the plant size. John Green, the breeder, had only 3 seedlings from the cross that survived to flowering stage.

Dendrobium Banyad Pink

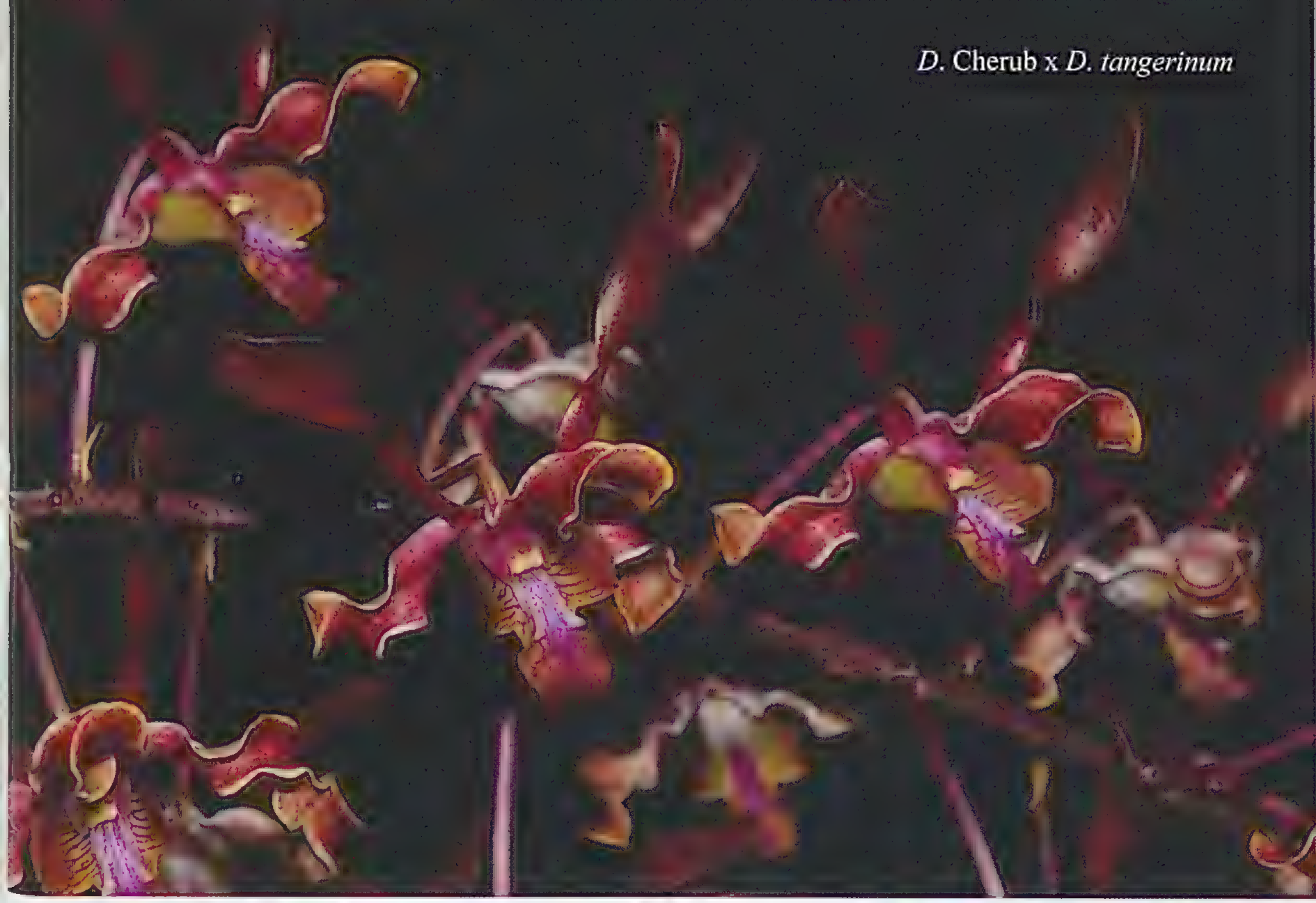
This was the winner of the *Phalaenanthe* Hybrid class. It is a crossing of *D.* Sonia and *D.* Tomie Drake made by D. Cagauan in 1999. *Dendrobium* Sonia is a complex hybrid based on *D. bigibbum* (syn. *D. phalaenopsis*) and is extensively grown for the international cut flower trade in Thailand, where it flowers mainly in February-March. There are many named forms of *D. Sonia*, and considerable ongoing research into improving horticultural practice. *Dendrobium* Tomie Drake, registered by T. Takiguchi in 1970, has 66% *D. bigibbum* (syn. *D. phalaenopsis*), 25% *D. gouldii*, 6% *D. stratiotes* and 3% *D. tokai*. In the ANOS judging system this is an Australasian *D. bigibbum* complex hybrid. The striped flowers had good shape, presentation and uniformity, but the 10 flowers were insufficient for higher judging honours.

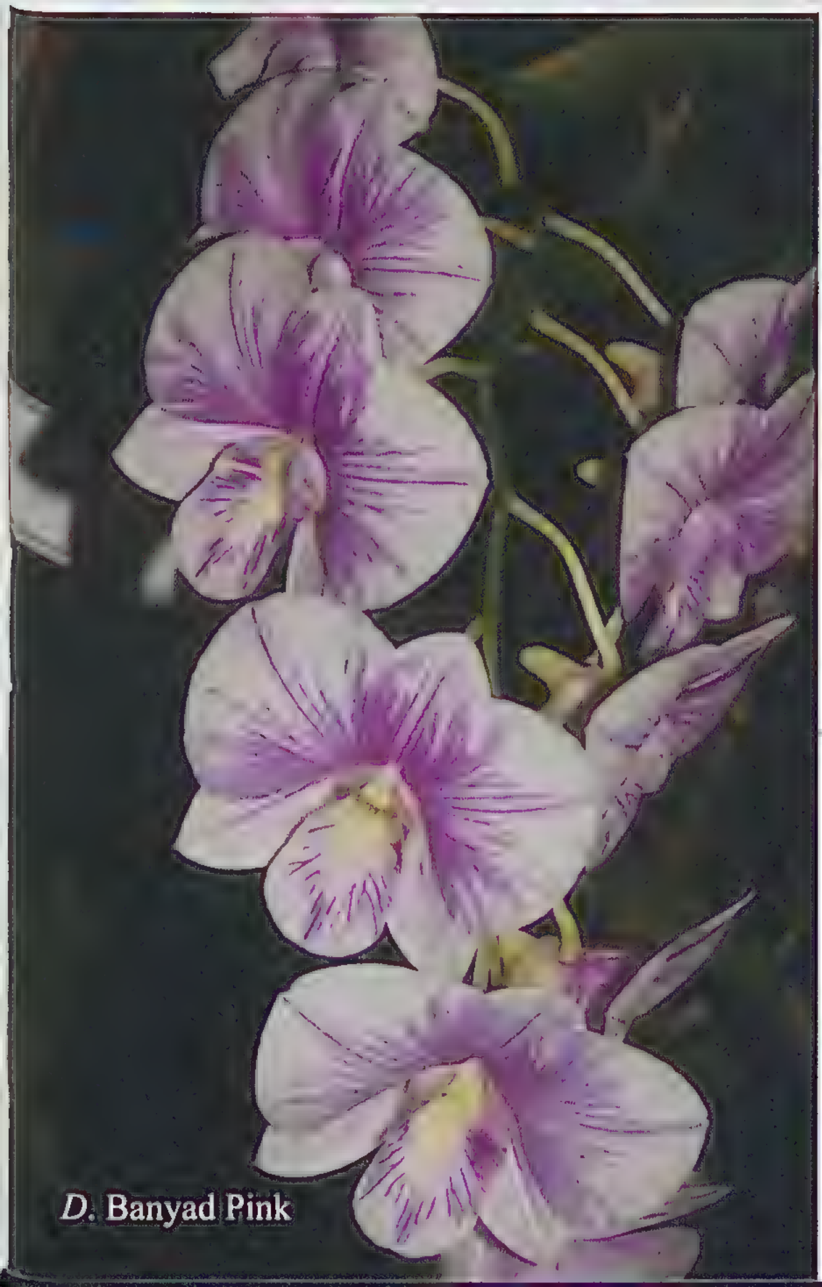
Dendrobium Nigrescens Fragrance

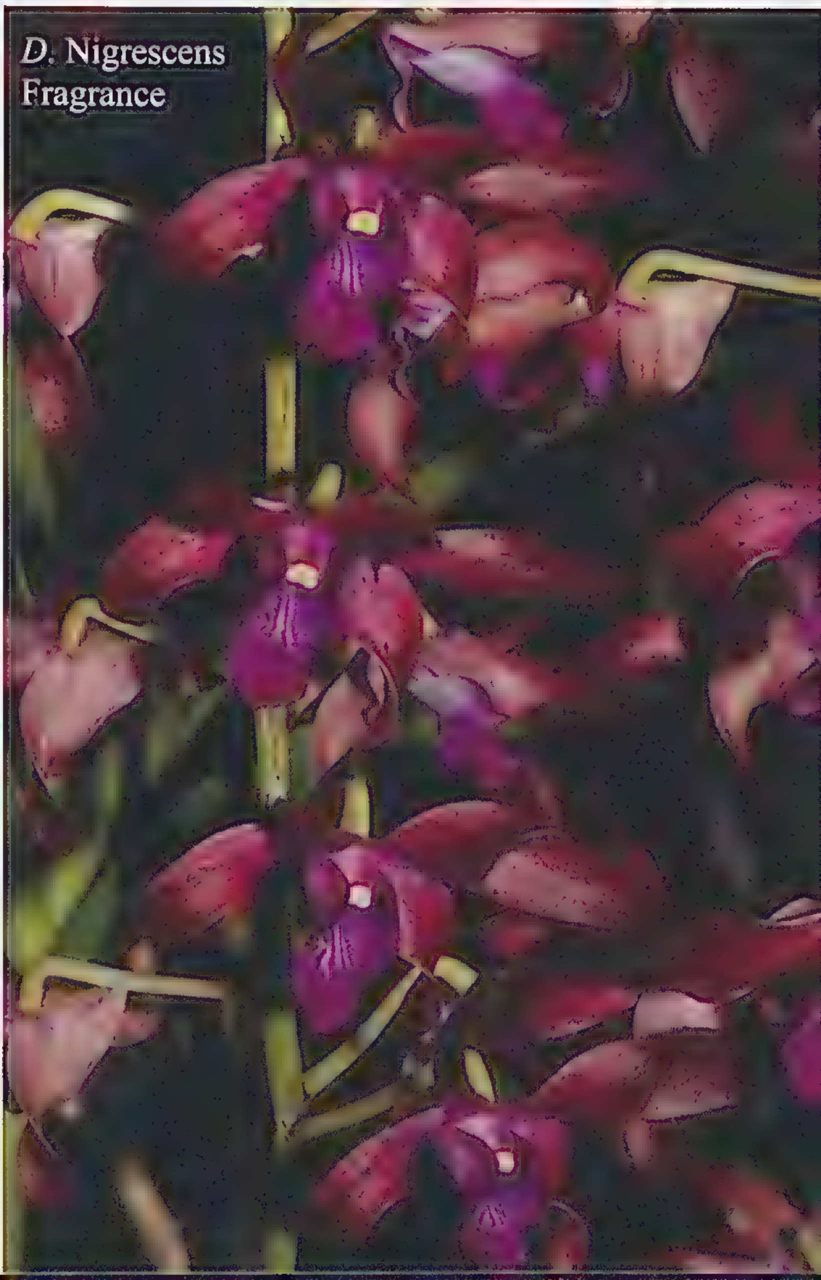
This is a complex Australasian hybrid (*D.* Genting Fragrance x *D. johannis*), registered by A.J. Vane in 2013. It contains *D. canaliculatum*, *D. lasianthera*, *D. tokai* and *D. lineale*. In this seedling the strong purple red colours of the New Guinea species *D. lasianthera* are dominant.

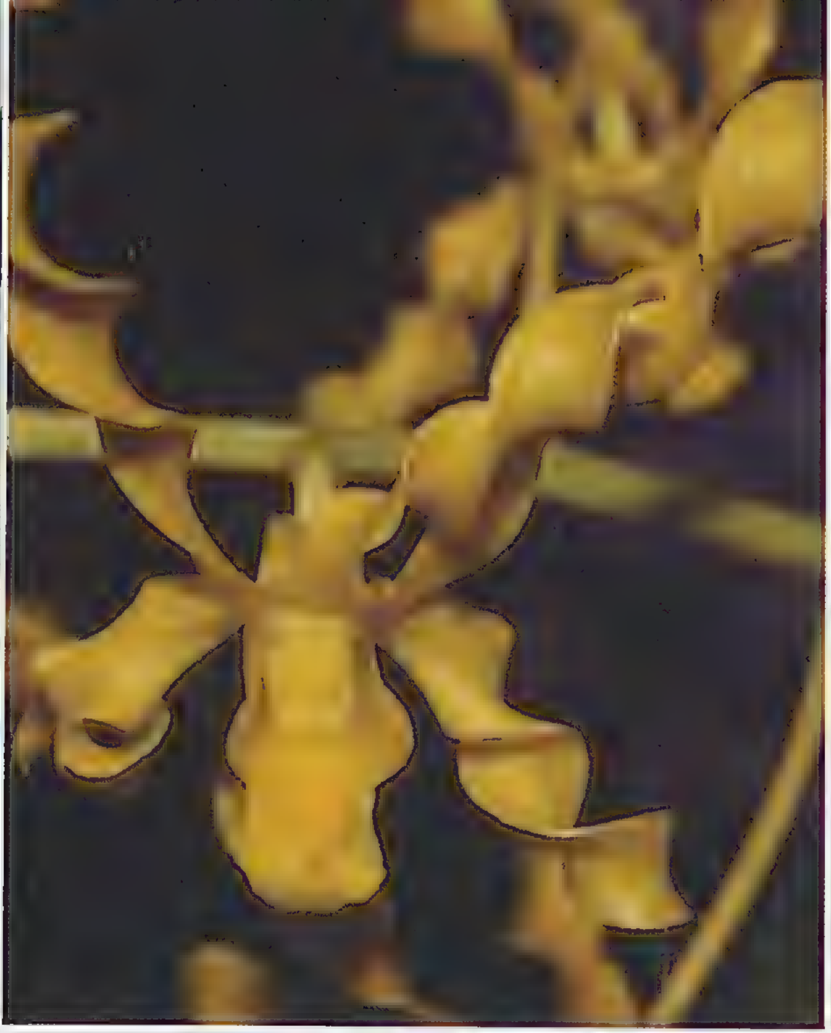
Dendrobium Johulatum

This plant was labelled *D.* Johulatum (*D. discolor* x *D. johannis*), registered by Min Kausman in 1983, but was clearly made with *D. trilamellatum,* not *D. johannis*. The long, twisted, narrow petals and reflexing R lateral sepal on the plant are features of *D. trilamellatum*. The seedling has yellow, twisted flowers and a subtle brown tinge, and attracted discussion between the ANOS judges (see article by D. Groffen in this issue).

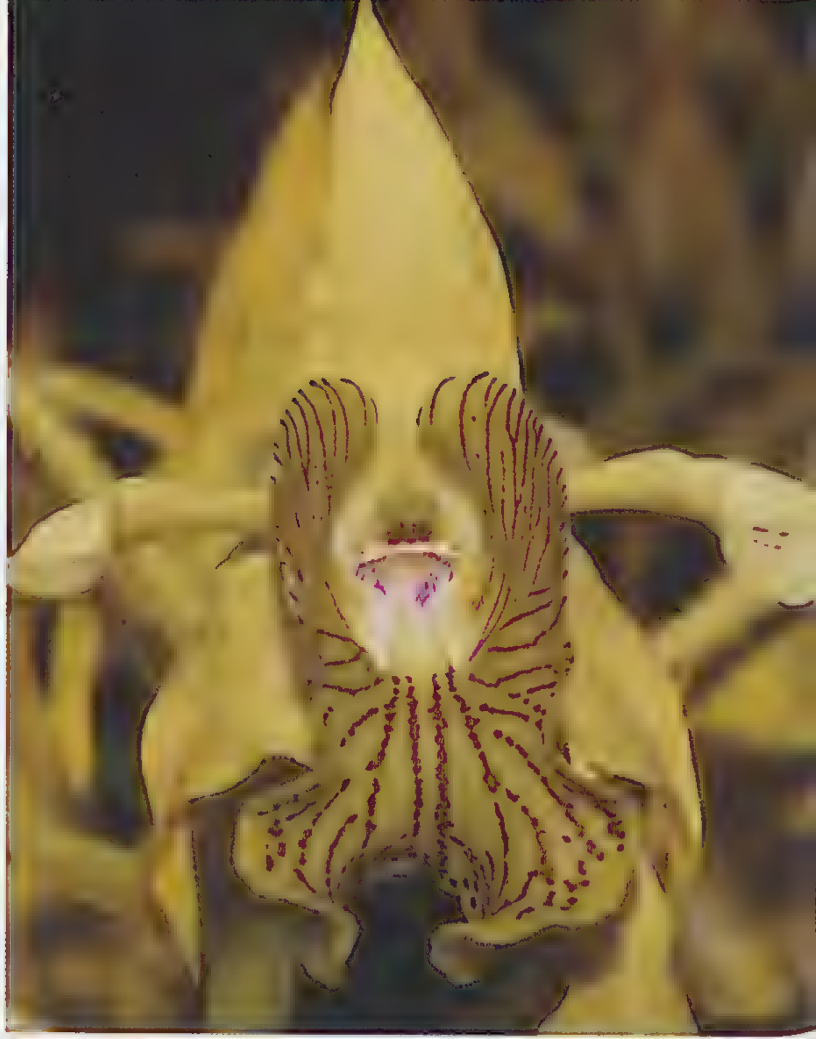

D. Cherub x *D. tangerinum*


D. Banyad Pink

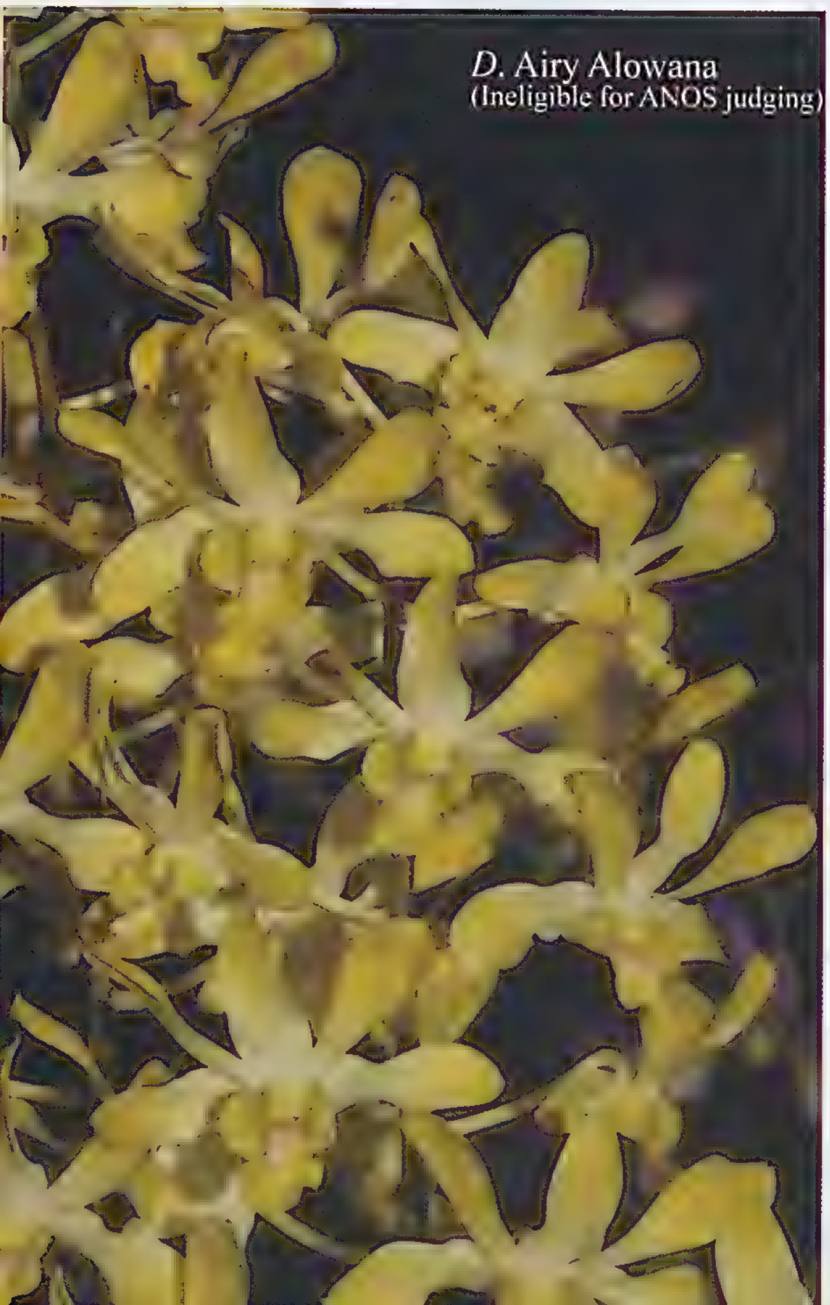

D. Nigrescens Fragrance



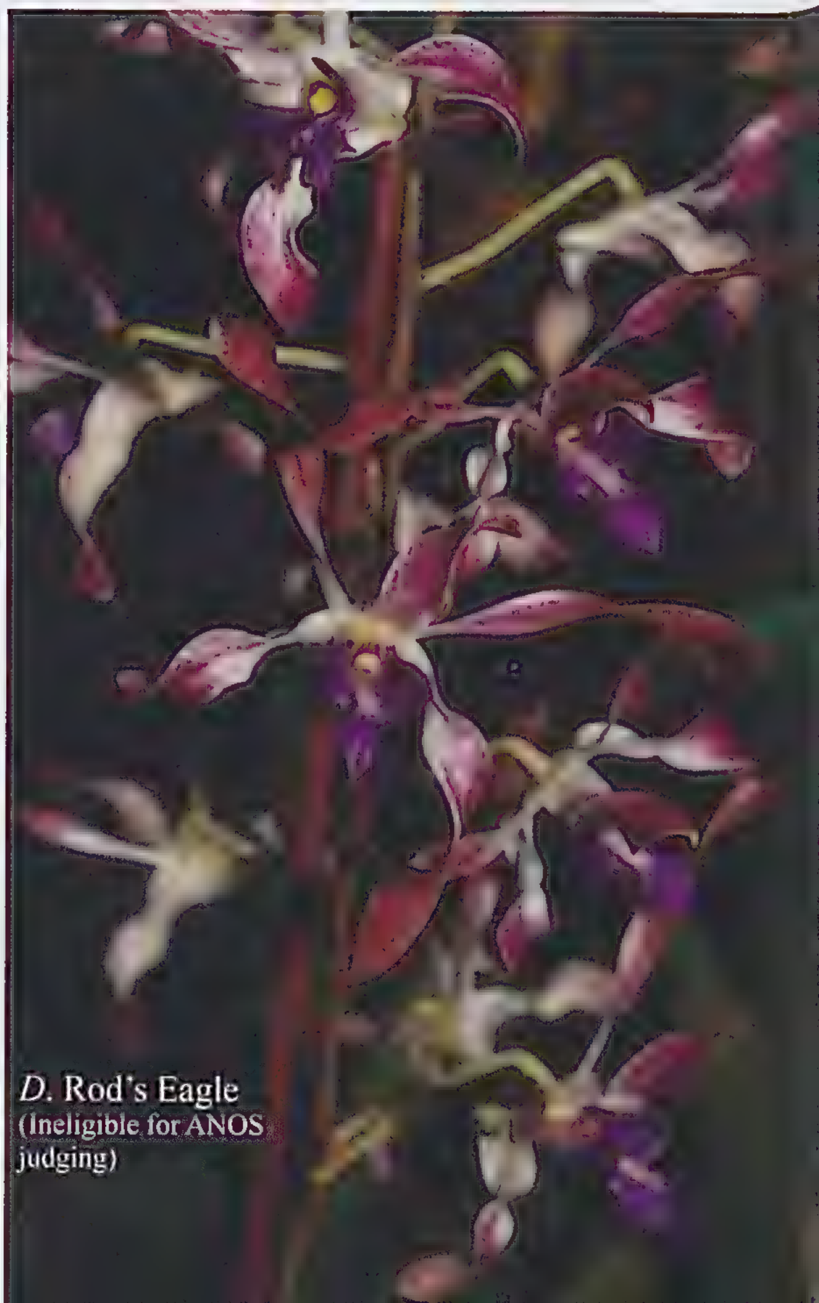
D. Johulatum



D. macrophyllum



D. Airy Alowana
(Ineligible for ANOS judging)



D. Rod's Eagle
(Ineligible for ANOS judging)

Dendrobium Airy Alowana

An attractive plant with upright racemes and green flowers with wide segments that are white towards the centre of the flower. The cross was made by Air Orchids in Thailand and registered by Robert Reitano in 2014, after it was Grand Champion at the Apsley Orchid Society. The cross has an interesting history. The parentage is *D.* Hybrid Ignota x *D. canaliculatum*. *Dendrobium* Hybrid Ignota was registered in 1900 and there is no record at all of the parentage (not allowable today). The wide segments suggest it has a component of a sect. *Phalaenanthe* species and the long raceme with flowers that have little twisting may reflect *D. lineale*, but these comments are entirely speculative.

Dendrobium Rod's Eagle

The parentage is *D.* Red Toro x *D. canaliculatum*, made by George Valmadre and registered by T. Dwyer in 2001. The influence of *D. canaliculatum* is evident in the twisting of the flowers, which are a striking purple brown with a rich bright purple labellum. The plant was extensively staked using a brown wooden stake wider than the peduncle and rachis. ANOS judging guidelines only allow staking of the pseudobulbs (stems). Staking is an issue that requires reconsideration and clearer guidelines, with a principle of as little staking as possible to highlight the flowers and allow judges to assess the strength of the raceme, an important feature of breeding.

The cross has seven species in the background - *D. discolor*, *D. lasianthera*, *D. taurinum*, *D. schulleri*, *D. bigibbum* (syn. *D. phalaenopsis*), *D. gouldii* and *D. tokai*. It is ineligible for ANOS judging because of *D. taurinum*, which occurs outside ANOS designated territory.

Dendrobium bracteosum Rchb. f.

There were two entries, one white and the other deep pink, both with a bright orange contrasting labellum. It is an epiphytic species from the hot humid north coast of the New Guinea lowlands, growing in bright light in mangrove and other coastal forests. It is now classified in sect. *Calyptrochilus*, which has brightly coloured clustered flowers which are long lasting. This section is well represented in New Guinea.

Dendrobium macrophyllum A. Rich. (1834) (photo back cover)

This was a large specimen with upright racemes supporting very large flowers for the species and was Champion Species. Some ANOS judges suggested it may have come from the Tari area of New Guinea, where large flowered plants are often seen. The plant had been flowering for about 4 weeks and had received an AOC quality award 3 weeks previously. *Dendrobium macrophyllum* is the most widespread species in sect. *Latouria*, found from sea level to 1700 m in Java, Papua New Guinea, Solomon Islands, Vanuatu, New Caledonia and Samoa. Flowers are variable in colour, size and degree of hairiness, as might be expected from such a wide distribution. Hence there are around 10 synonyms and varieties that are not distinguishable (Cribb 1986). The plant on show had pale green flowers with very distinct darker lines. They displayed almost perfectly to the viewer.

Bulbophyllum grandiflorum Blume 1840

An epiphytic orchid from the New Guinea lowlands, a very large and distinctive species, with a number of named and valued forms. In nature it is often found with long creeping rhizomes on the lower branches of trees in moderate light (O'Byrne 1994). There were several exhibits, each with a small number of flowers, which was compensated by the size of each flower, making an impressive display. Colour varies, with different shades of yellow and brown, and there is mottling of brown on the overarching dorsal sepal, which has translucent areas that create a window effect.

Dendrobium Fraser's Red Dragon x *D. carronii*

A complex unregistered cross which was made by Fraser Coast Orchids. *Dendrobium* Fraser's Red Dragon is *D. discolor* x *D.* Red Toro. *Dendrobium discolor* and *D. carronii* dominate but there are small amounts of *D. lasianthera*, *D. taurinum*, *D. schulleri*, *D. gouldii* and tiny amounts of *D. tokai* and *D. bigibbum* (syn. *D. phalaenopsis*). The *D.* Red Toro breeding line is popular with growers and this plant had attractive large flowers with characteristics of *D. carronii*. The smaller components like *D. bigibbum* and the exotic *D.*

taurinum do not appear to contribute much to the appearance. The presence of *D. taurinum* makes this cross ineligible for ANOS judging.

Dendrobium bigibbum Lindl. 1852

There were only two exhibits, as peak flowering had been earlier in the year. Both were most likely to be var. *superbum*, and showed a distinct white patch of labellar hairs that is found in around 20% of this variety in the wild (Adams 2015). One plant had distinctive purple veins on the tepals, a feature often seen in populations on Cape York. The provenance of the plants was not available, but they are likely to have been line bred. Labels that indicate the provenance and details of the parents enhance the appreciation and judging of the exhibit.

Dendrobium spectabile (Bl.) Miq. (1855)

This specimen plant had only a few flowers open at judging, but by the end of the show the plant transformed into a magnificent exhibit with large, dark, marked and tortuous flowers. The species is found in swampy lowland forest and montane forest from sea level to 1100 m in New Guinea, Bougainville and the Solomon Islands. The flowers are as striking as any in *Dendrobium* sect. *Latouria.* It is similar to *D. alexandrae* but identifiable by very twisted and undulate floral parts, and a longer narrow lip with purple stripes rather than spots.

Dendrobium Sorrento Star

A cross of *D.* Jesmond Sparkler x *D. tetragonum*, which was registered by Australian Orchid Nursery in 2009. It is predominantly *D. tetragonum* (69%) with some *D. falcorostrum*, *D. kingianum* and *D. speciosum*. It is a cool growing hybrid which has flowered well on the Sunshine Coast. The well presented yellow flowers are large with a distinctive purple on the labellum and edges of the tepals, and are in the style of *D.* Hilda Poxon. The *D. tetragonum* used was probably var. *giganteum*, producing large flowers in the winter.

Concluding Comment

Australian and Australasian orchids were a highlight of this general orchid event. They more than held their own when mixed with the showy, larger-flowering competitive exotics that attract the appreciation of judges and the general public, and took out several major prizes including Grand Champion.

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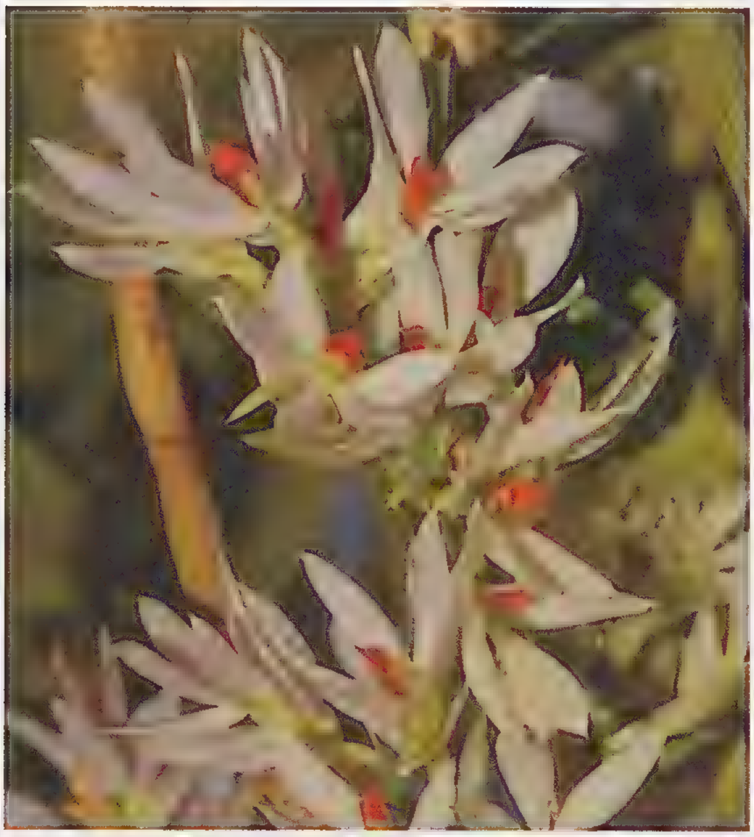


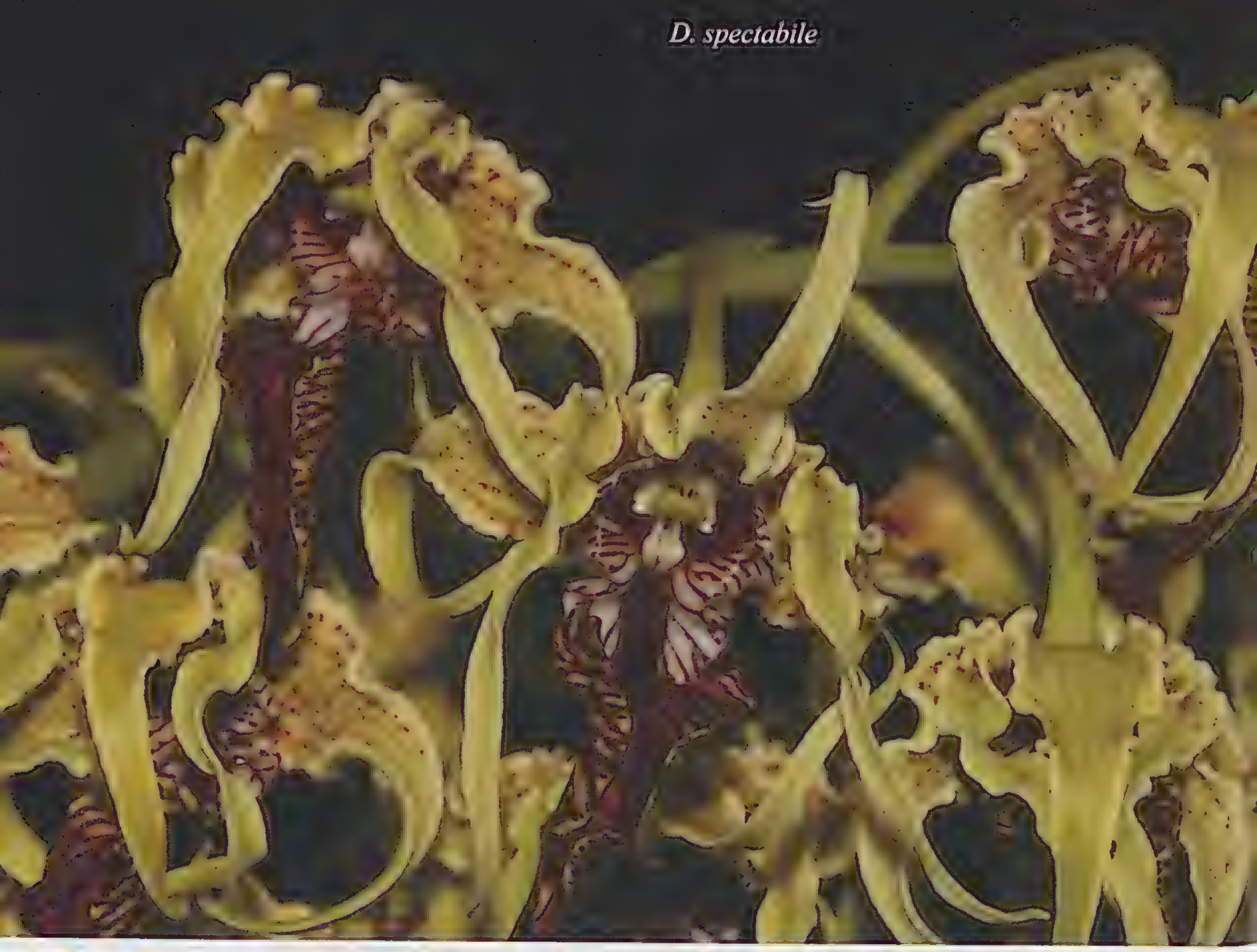
D. bracteosum, white flowers

D. bracteosum, pink flowers

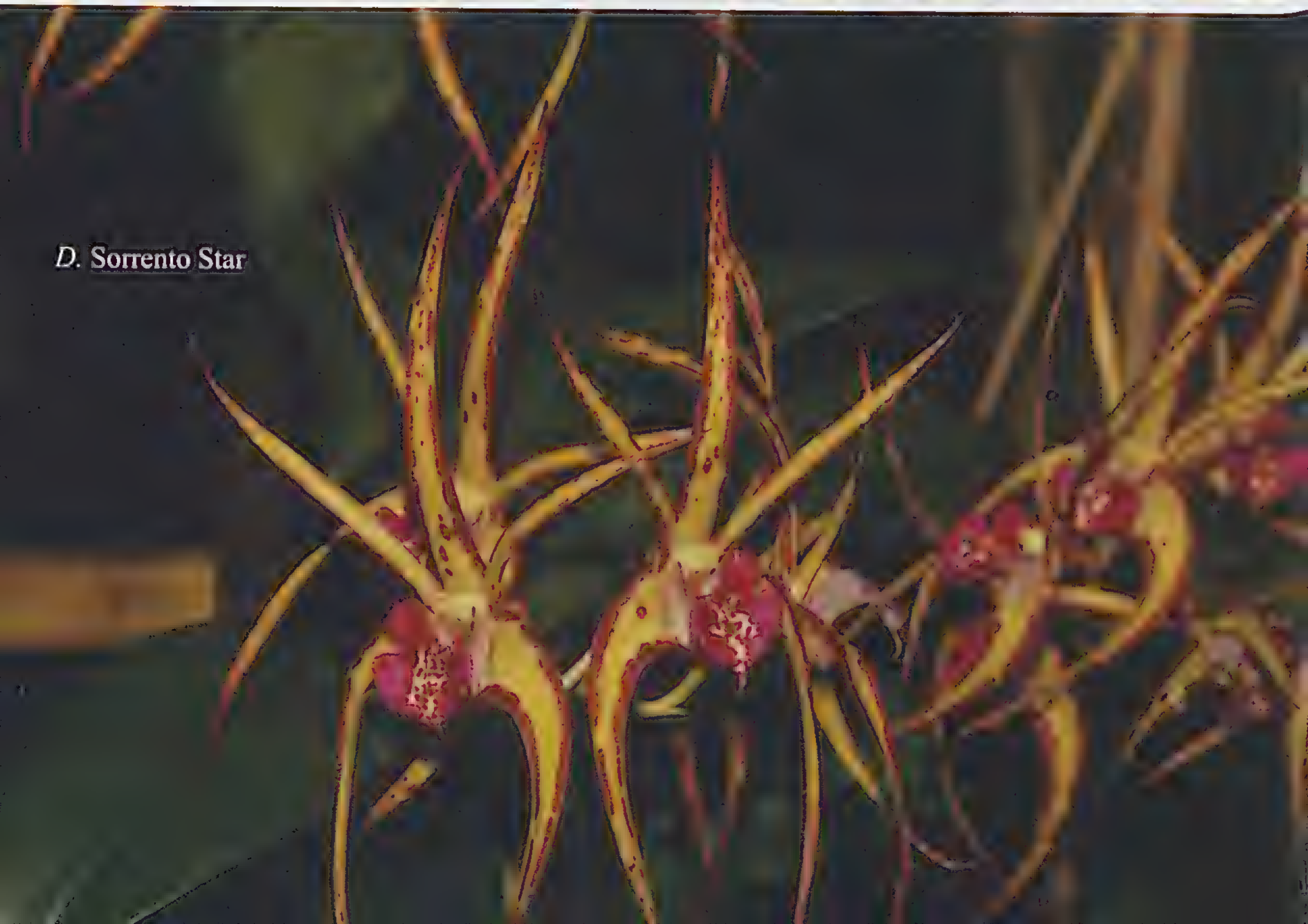
D. bulbophyllum grandiflorum 'Eric'

D. bigibbum

D. Fraser's Red Dragon x *D. carronii*
(Ineligible for ANOS judging)



D. spectabile



D. Sorrento Star

Growing *Dendrobium* Section *Spatulata* in Brisbane, Queensland

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My orchid collection is an eclectic mix of genera with different growing requirements, all housed within one large structure. The main focus in this article is growing *Dendrobium* section *Spatulata* within a mixed collection in Brisbane.

Defining the Section

Dendrobium sect. *Spatulata* are erect, unbranched hard-cane plants with unsheathed leaves that last for several years, and elongated racemes with flowers that have variously twisted sepals and petals. Most are large, vigorous plants with long-lasting flowering several times a year, generally in summer. They require warm temperatures all year (15.5 –18°C nights, 23–32°C days), generally need no rest period and can be kept cooler in winter if dry. They need medium to high light.

There are more than fifty species with a concentration in New Guinea, where nearly half the species occur. The rest of the species are distributed from Java and the Philippines to Australia and the Pacific Islands. From their natural distribution it is clear they thrive in warmer tropical regions. The free-flowering habit, the longevity and firm texture of the flowers make these dendrobiums excellent plants for orchid breeding programmes. The most popular species used in breeding are *D. antennatum, D. canaliculatum, D. carronii, D. discolor, D. gouldii, D. helix, D. johannis, D. lasianthera, D. lineale, D. nindii, D. stratiotes, D. strebloceras* and *D. taurinum* (non-ANOS eligibility). Since its recent discovery, *D. sutiknoi* is being used for its lengthy petals and flower size. Each of these imparts certain positive plant form and floral characteristics to its progeny.

The term hard-cane refers to the fact that these plants are evergreen with hard, fibrous stems and hold their leaves for a number of years. They generally flower on matured or hardened canes and maintain their leaves, unlike their relatives in the deciduous soft-cane sections. Many orchid enthusiasts love the challenge of growing these species and their hybrids in the more southern zones of Australia. The big question many orchid enthusiasts ask is how does one create favourable conditions in south east Queensland orchid houses, to enable this section to thrive and reward the grower with quality flowers? My intention is to offer some ideas that may enable more growers to take up the challenge of growing *Spatulata* dendrobiums in south east Queensland and perhaps further south.

So what is needed? I think the answer is a passion for their unique charms and some reading, research and ultimately hands on or feet first field work to better understand their requirements, from a consideration of their natural habitats. With some research and experimentation, favourable growing conditions and micro-climates within the orchid house enable these beauties to grow in Brisbane.

Often many growers begin with one orchid house to grow a mixture of genera until they settle on a more defined selection. Alternatively, they may build other structures to house and meet various requirements. Over the years of growing orchids, my passion has evolved to focus mainly on growing *Dendrobium* and in particular those that belong to *Spatulata*. Being restricted to one large orchid house is a challenge, and one that I am happy to say, keeps my passion for orchids alive.

Essential Requirements

The essential requirements all orchid growers need to address are: growing media, light/temperature, water/humidity, airflow, nutrients/fertilisers and preventative methods for fungal and pest control. The genetic make-up of hybrids must be considered, as some of these are becoming rather complex and they too require specific conditions to thrive. There are a number of avenues taken to appreciate the essential requirements, such as checking out the reference books. The internet is a goldmine of information these days, with web-sites such as Jay Pfahl's orchid species encyclopaedia www.orchid-species.com ; Australian-based orchid forums such as www.orchidsonline.com.au ; Orchid Society web pages such as ANOS Kabi group www.ourshopfront.com/kabi/ ; RHS (Royal Horticultural Society) Orchid Register http://apps.rhs.org.uk/horticulturaldatabase/orchidregister/ and Google or other search engines. Alternatively, you may

Orchid house with north-south orientation

Winter flaps are closed at night

Rear shutter for air escape

Tillandsia used as moisture indicator

subscribe to the OrchidWiz software, which has a very informative section called Baker's cultural notes. Additionally, you may join a grower's improvement group to share ideas and participate in bush-house visits to see how successful growers are growing particular genera in your area.

Australasian *Spatulata* dendrobiums grow in the following habitats: Mangrove Forest – *D. discolor, D. nindii, D. mirbelianum* and natural hybrids like *D. discolor* x *D.* n*indii*; *Melaleuca* Woodland – *D. canaliculatum, D.carronii, D. trilamellatum* and *D. johannis* and Cape York Rain Forest – *D. antennatum* and the natural hybrid *D. discolor* x *D. antennatum*. Understanding of these habitats, which share a wet and dry season allows a better appreciation of the conditions these species and hybrids require in cultivation.

In their natural state, the majority of *Spatulata* dendrobiums grow as epiphytes, with a small number of some species growing as lithophytes. When deciding how to cultivate these, it is imperative to consider the health of the roots of these plants and how they obtain nutrients and still maintain aeration. Aeration of the root mass is essential to good plant health, for if the plants roots are in a tight mix, they will soon become waterlogged and rot sets in; leading to further health problems for the plant.

I tend to pot the majority of my dendrobiums, but I mount species that require drier winter conditions. Species like *D. canaliculatum, D. carronii, D. trilamellatum* and *D. johannis* grow in the *Melaleuca* woodland regions of northern Australia and PNG and with the seasonally wet summers and drier winters, they respond well to being mounted. This enables their roots to dry out quickly even if they do get a little wet during a winter shower. I have had success with mounting *D. canaliculatum* on various mounts such as: rolled-up tea-tree bark, hard-wood panels and thick pieces of cork. There are a few also doing equally well in small pots of porous volcanic rock and larger bark mix. I have also trialled some of the larger relatives like *D. discolor* var. *broomfieldii* on a 30cm piece of tree fern trunk, where I planted the young plant in the open centre of the trunk round and years later the plant is thriving on its host mount.

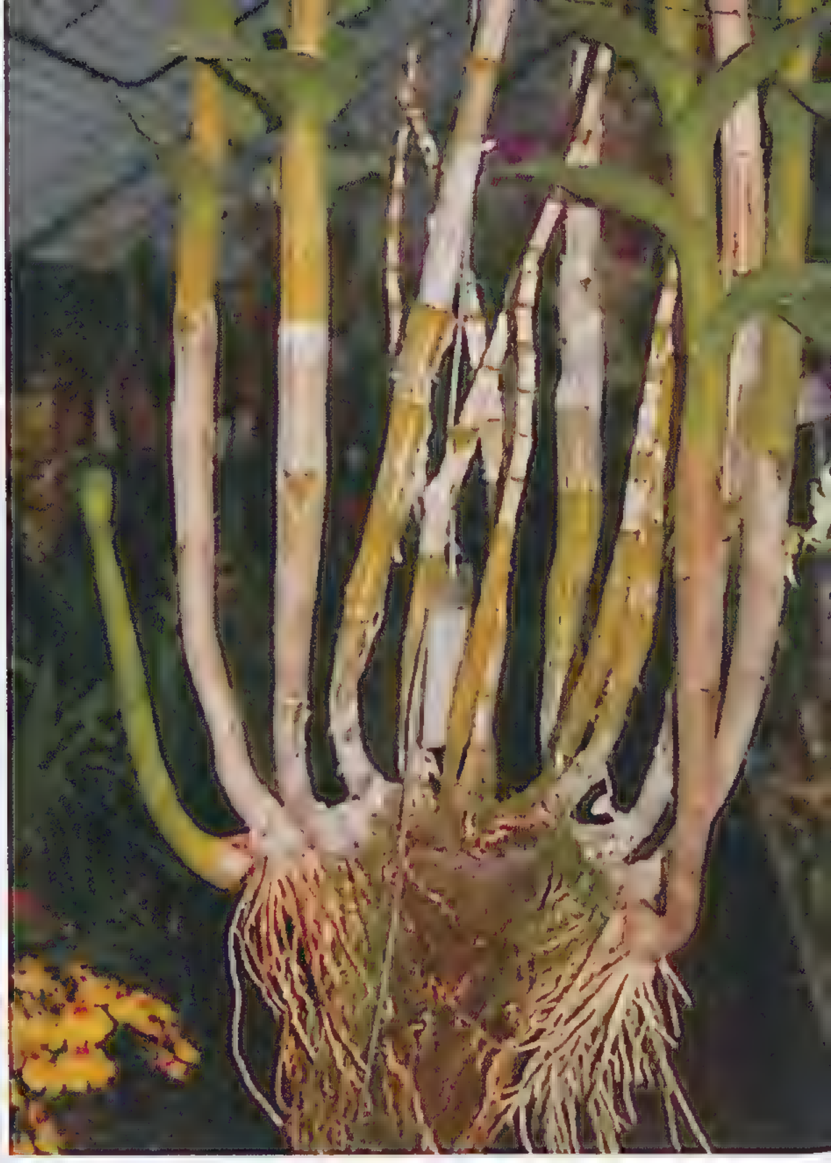
Generally the majority of my *Spatulata* collection is grown in squat plastic pots of varying sizes. The larger the plant, the larger the pot; however, be cautious not to over-pot them as they do not mind being a little pot-bound. A good rule of thumb is to use a pot size that allows for two years of growth. Experience has shown that it is far too easy to lose the centre of larger specimens if there is inadequate aeration of the potting medium in the centre of the pot. For this reason I add large chunks of polystyrene or terracotta crocks to the base of the larger specimens to keep the centre of these larger pots more open. Additionally, I add more holes on the sides to allow more air circulation around the roots and potting medium.

My general mix is one third treated orchid bark, one third coco chunks and one third large perlite pieces. However, for larger plants I reduce the amount of coco chunks to a point where the larger specimens are potted in straight bark chunks with added perlite and sytro-foam for aeration. The majority of plants are hung to prevent them from falling over on benches and also to allow more air circulation between plants. The bark is treated by soaking it in water for two days with the addition of *Cultiplex*, which is a product manufactured by Horticultural Solutions for the purpose of reducing the acidity and tannins of bark. Once rinsed, I then soak the bark for a further two days in a dolomite solution to add extra calcium and magnesium. This further neutralises the acidity often associated with bark as it breaks down. Re-potting is usually done in spring when the plants begin their active growth cycle. However, they will tolerate re-potting throughout the warmer months, as long as they have enough time to settle into their new potting mix before the cooler months arrive.

Light and Temperature

Light and temperature are closely related. As this section requires bright light, care must be taken that the leaf surface does not over-heat. These orchids can tolerate direct sunlight only if adequate air is passing over the leaves to cool them. Particular species like *D. discolor* are sometimes found growing lithophytically on rocks in direct sunlight along the coastal regions in north Queensland where the coastal breezes guarantee a constant cooling effect. Many gardens in north Queensland have plants of *D. discolor* growing on trees. They

D. Peter Peterson 'Magenta' HCC/ANOS



D. discolor on tree fern mount

Trays of water placed under benches to increase humidity contain pool chlorine for mosquito control

Fans provide increased air flow

respond very well to this culture and sometimes flower better than ones grown within the orchid house. It is evident that strong light is essential in initiating flowering. I have a plant of *D. discolor* var. *broomfieldii* that has not flowered in the orchid house to date and I am seriously considering moving this plant outside to initiate flowering. The only reason stopping me is the risk of damage from *Dendrobium* beetle attack. I have mounted plants of *D.* X *superbiens* on palm trees in the garden and they are responding well and flowering. These plants continue to hold the majority of their leaves right through the winter months. My neighbour has a plant of *D. discolor* growing in her frangipani tree and it has flowered every year. However the *Dendrobium* beetles make short work of the blooms and attack the new growths.

The miniatures of the section, *D. canaliculatum and D. carronii*, both have channelled leaves, which is an evolutionary adaptation to tolerate growing in full sun in their native habitats. In the orchid house they grow well under a weather proof roof of 50 percent shade. The location of the orchid house is important to take advantage of the maximum sunlight hours throughout the year. Having the structure running directly north-south allows the plants to respond to the full arc of the sun, which assists in flower arrangement on the racemes. With no over-hanging trees my orchid house is exposed to sunlight from sunrise to late afternoon. A major concept to remember is that higher light and heat levels need to be balanced with increased airflow. During the winter months the temperature can drop occasionally to minimums with possible frosts. For this reason, I am trialling an experiment by heating the middle bench between the hours of 3 a.m. and 6 a.m. on morning that are forecast to have temperatures lower than 8°C. I have covered the bench with insulation foil and placed two fan heaters underneath, so when switched on they will create a pocket of warm air which percolates up through the plants to minimise the threat of pending frosts. This should also narrow the temperature variations on cold mornings.

Airflow

Air movement is essential in the orchid house, as stale air often leads to disease. However, care must be taken, for strong winds whether hot or cold are not good for the health of the plants. Air movement serves three primary purposes to ensure the health of orchids.

Gentle wind has a cooling effect. This can be likened to the heat associated when one stands in the mid-day sun and the tremendous difference felt when the sunshine is accompanied by a gentle breeze. Similarly, air movement cools the surface area of the orchid plants, particularly the leaves. This coupled with adequate humidity and moisture allows the orchids to thrive in brighter, warmer conditions in the orchid house. In Brisbane during late spring, summer and early autumn there is a NE sea breeze that commences around 10 am and continues until the late afternoon and early evening. Having a north south axis for the orchid house with an exit vent on the southern end takes advantage of this breeze. The other predominant wind in Brisbane during spring and autumn is the south easterly trade wind. During winter Brisbane receives cooler SW to W winds.

Air circulation keeps the temperature in the orchid house more uniform. It prevents pockets of cold or hot air in one particular spot. This is especially important if you have a small growing area with many plants.

Moving air prevents disease. Fungus and bacteria germinate and multiply on wet surfaces. For this reason water plants in the morning, so that the leaves are dry before night fall. With a gentle breeze, the leaves will dry more quickly than without.

To promote air circulation, I hang most of my *Spatulata* dendrobiums. As tempting as it is, try not to overcrowd your plants. As experience shows, seedlings need space to mature and flower. To eliminate the possibility of areas in the orchid house becoming still or stagnant, I have 3 wall-mounted fans moving the air across the ceiling from the northern end through to the southern exit shutter. As warm air rises, it creates convection currents that draw cooler air in from the lower sections and allows air to move between the hanging orchids. I also have solar weave weather-proofing material clipped down as far as bench height, allowing free air movement into the space from below the benches. With an orchid house running north-south, there is always a generous breeze on my

Spatulata hanging in centre of house

D. canaliculatum mounts

Larger pots with extra aeration

urban block. However, as the house is bright and full of plants, the fans assist in eliminating pockets of still air and assist in cooling during the warmer months. I have also installed an evaporative cooler to add extra air movement, with the benefits of added moisture. The area directly impacted by this unit has cooler growing plants that appear to enjoy the added moisture.

Moving air is good as long as it is not too hot, cold or dry. Therefore, do not place your orchid plants right in front of an air conditioning or heating unit. I enclose the orchid house with solar weave sheeting during the winter months. This can be opened during the warmth of the days and closed at dusk to maintain some warmth and eliminate the chilling and drying effects of the winter westerly winds. Additionally, I find it narrows the temperature variance associated with these cooler westerlies. The reason for this practice is to reduce the incidence leaf drop during the winter months. There are more advanced mechanical devices available for this process if you can afford them. I run my orchid house on a lean budget and find the manual approach of closing and opening the house on a daily basis worth the effort. It is imperative that the house is partially opened up during the day to allow stale air to escape, but also maintaining some protection from the westerly winds. It also allows the circulation of fresh air to dry the leaves of plants before night fall, lowering the incidence of *Botrytis* and other water borne pathogens. Furthermore, when water remains in the centre of tender growths the risk of rotting appears to increase, causing the loss of new growths.

Water and Humidity

In their native habitats *Spatulata* dendrobiums receive adequate moisture either via rains, heavy mists or via humidity in proximity to water bodies. Plants should be watered as soon as the potting mix is dry all year round. In winter due to the cooler conditions the potting mix takes longer to dry out and watering should be reduced accordingly. During the warmer months I generally water 2–3 times per week, depending on the weather and temperatures. I water by hand, so I can assess the condition of the plants. There is a misting system installed, but I find that this overhead misting weighs down and damages the inflorescences. I have on odd occasions used this to quickly drop the temperature in the house if it has been an extremely hot day. Alternatively, I prefer to use the under-bench misting system that I have installed to increase the humidity and drop the temperature. It is amazing how effective this practice is during the temperature peak of summer. For those plants grown on mounts and close to the ceiling, I give them an extra drenching each week during summer to prevent dehydration and stress. Most summers, the mounted plants are watered daily to prevent dehydration and stress.

During the cooler months and in the peak of winter I water once or twice per fortnight and certainly refrain if wet weather is imminent. *Spatulata* dendrobiums and most other dendrobiums detest being wet and cold. For this reason, I grow them under a weather-proof roof, so they are kept dry at night when the temperatures are at their lowest. There is obviously a difference between the more tropical species and those found in *Melaleuca* woodlands e.g. *D. canaliculatum, D. carronii, D. trilamellatum* and *D. johannis*. I grow these species on the rear wall of the house; alongside *D. bigibbum*, which require the same winter rest period.

An evaporative cooler provides extra moisture in the front part of the orchid house. As this is where the majority of air enters the house, it is quickly dispersed throughout the adjacent areas. I have placed trays of water under some plants and use polystyrene boxes and plastic containers of water under the benches for added humidity. There is no mosquito problem in the orchid house, as I add 20 ml of pool chlorine to inhibit mosquito larvae and algal growth in these under-bench containers.

I have planted native violets as an under-planting under the western benches to keep the heat down from the afternoon western sun and also increase humidity. The use of *Tillandsia* for moisture retention on top of the pots and around the roots may restrict air movement but I find it keeps the roots shaded and cool. I also find it useful as an indicator of humidity/moisture in the house during summer. If it looks green there is adequate moisture in the house and if it looks dull and grey it is a prompt that I need to water.

Nutrients and Fertilizers

Spatulata species range in height from a few centimetres to over 2 m. As they are naturally found in tropical regions the majority of the species do not have a rest period, except for the ones that occur in *Melaleuca* woodlands. Additionally, new growths can appear anytime from August to April and occasionally later. The goal is to develop healthy and vigorous pseudobulbs, which mature so that flower initiation can begin and plants have cellular resistance to fungal and bacterial attack. Therefore, one must have a feeding program that offers a balance of nutrients to meet the growth and flowering stages.

I have had success using fertilizers from Horticultural Solutions, as they are highly soluble and meet my preferred method of foliar application. This is applied via a clip-on Venturi nozzle, which draws up the dissolved concentrated mix from a bucket. I find the balance and availability of nutrients in both the high nitrogen growth and low nitrogen/high potassium flowering formulas to adequately meet the plant requirements. As spatulatas are gross feeders they benefit from regular feeding; however, as many of the species and their hybrids are large growers it is often advisable to feed them with low nitrogen/high potassium formula and alternate with the high nitrogen formula at every fourth application. This may be altered during the warmer growth cycle by alternating between high nitrogen and low nitrogen/high potassium formula. However, keep a check on the state of the growth of plants; if they develop growth that is too soft and lush the high nitrogen formula may need to be cut back. As my conditions are quite warm during summer, I find that too much nitrogen formula produces soft growth that may be susceptible to bacterial and fungal problems. During the cooler winter months an application of silica may assist in reducing leaf drop. Fertilizers have a tendency to break down the organic potting mix, turning it acidic. I apply neutralizing dolomite to the entire orchid house at the beginning of spring and again in autumn. This gives the plants a dose of calcium and magnesium. However, do not apply to those species that need their winter rest period. I also find it beneficial to give the house a good drenching a couple of times per year, to flush through any fertilizer build-up.

With the current trends for hybridizers to use both *D. canaliculatum* and *D. carronii* in reducing the physical size and intensify the colour of *Spatulata* hybrids, I reduce the water and fertilizer for this type of hybrid in winter, but resume with the onset of warmer weather. When fertilising or applying any chemicals it is most important to spray both the top and underneath of the leaves; as the stomata (openings where gas exchange and nutrient entry occur) are located on the underside of the leaves.

Preventative Methods For Fungal and Pest Control

Prevention is better than cure when it comes to fungal and bacterial pathogens. One Saturday I will fertilize and every other Saturday I alternate with either fungal or pesticide applications.

Fungicides can be divided into protectant and specific types and are classified with a group rating which identifies its potency towards certain fungi. Some naturally occurring fungi resistant to one group may exist through normal genetic variability. The resistant individuals can eventually dominate the population if these fungicides are used repeatedly. Therefore, it is important to alternate between fungicide groups to prevent fungal spores building resistance. I alternate between *Mancozeb (Group Y Protectant), Carbendazim (Group A Specific)* and a mix of protectant and specific types with 2 parts *Mancozeb* and 1 part *Octave (Group B)*. Additionally, I sometimes use a multipurpose mixture such as Yates *Rose Spray*, which is a mix of fungicide and insecticide. The peak period of risk is during the cooler months, so I begin monthly spray applications from the first week in March and continue through to the end of August.

For pest prevention such as the occasional mealy bug or *Dendrobium* beetle attack, I alternate between *Confidor*, which is a systemic pesticide and *Carbaryl*, which is supposedly the best preventative agent. I choose to avoid using any insecticides with the active constituent Dimethoate, as I am uncertain of the effects on developing flowers. When spraying chemicals use protective clothing and breathing apparatus to prevent personal exposure.

Dendrobiums have a habit of producing keikies if they are either stressed or they are dying. The best way to save these keikies is to remove them from healthy pseudobulbs and hang them with a clip onto the side wall. Generally it is advisable to not remove a kieki unless it has at least two bulbs, but I have found this method works in an effort to save a special plant. The success rate is relatively high with this method.

The Orchid House

My orchid house is 12 m long, 4.5 m wide with a height of 2.7 m in the centre apex. It is fitted with solar weave and then covered over with 50 percent shade cloth for weather-proofing. The aspect runs north-south and there is no over-hanging vegetation, so that the house is exposed to the sunlight during all seasons. The lower section of the walls do not have solar weave, enabling the cooler breezes to enter from under the bench height and circulate towards the top. *Spatulata* dendrobiums are the largest proportion of my collection and they are located through the centre of the house; positioning them to benefit from the longest sunlight exposure. The largest of the specimen plants are located in the forward portion of the house, where the bench has been lowered to accommodate their physical height. This also prevents the top heavy plants from falling over and allows clipping of the pseudobulbs to the hanger to keep the plants neat and tidy. The smaller seedlings are located on shelves along the side wall or on the side benches. As they mature, the plants are relocated in the centre of the house. Shorter *D. canaliculatum* and *D. carronii* hybrids are benched or hung in the side sections of the house, as well as hanging on the rear wall.

The Direction of *Spatulata* Hybridization

With limited space available in collections, hybridizers are working towards plants with reduced physical height that still have the interesting characteristics of their taller growing cousins. This has been achieved with inclusion of *D. canaliculatum* and *D. carronii*. Both parents are the smallest of the section and their progeny exhibit lengthy racemes with increased flower count and increased depth of colour coming from *D. carronii*. Another species used to achieve length to the racemes is *D. lineale*. In the quest for flowers with spectacular shape, size, twisting and colour, hybridizers have included *D. lasianthera*. The racemes of these hybrids tend to be somewhat shorter and the physical size of the plant larger, if this is the dominant parent.

Hybrids using *D. canaliculatum* and *D. carronii* as a dominant parent flower more readily, with many flowers per raceme. The flowers are multi-coloured, including white, pink, violet, yellow and brown. The plants can have up to 8 inflorescences per bulb and can flower more than once a year. These hybrids have a distinct wet and dry period also and must be kept dryer than the straight *Spatulata* type in the winter months. When flower racemes appear the plants must be lowered to at least 2 metres below the roof so as not to burn the inflorescence. As this type of hybrid can flower at any time, they may be fertilised throughout the year with low nitrogen / high potassium mixture.

In conclusion I suggest that what works for me may not work for you, as each orchid house and location is unique. Experiment until you achieve success and when you find something works for you, stick with it. If plants are shy in flowering, check your light level, air movement, humidity and nutrients. Enjoy growing your spatulatas, as they certainly are a rewarding section, with flowers that last much longer than many other orchids.

Acknowledgements

Thanks to Chris Cobb and B. Coleman. I also used information from a presentation by Bruce Gray on 23rd May 2013 entitled *Native Orchids of North Queensland*.

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The ANOS Victoria Conservation Group – A Personal View

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ANOS Victoria has a very active conservation group which is almost solely focussed on terrestrial orchids. There is a great deal of overlap between the Terrestrial Study Group and the Conservation Group, to the extent that the planning meeting for activities is held jointly to prevent activities clashing, and many outings are joint activities.

The Conservation Group is involved in many aspects of conservation in Victoria, and volunteer time and expertise to various governmental bodies, including Parks Victoria, the Royal Botanic Gardens Victoria (RBGV) and the department concerned with conservation, which is currently called the Department of Environment, Land, Water and Planning (DELWP). Members volunteer with the RBGV at Melbourne and Cranbourne as Orchid Conservation Volunteers, helping to propagate rare and endangered orchids for reintroduction. They and others help with the reintroduction of these orchids into the wild. Members also help with site maintenance of the *Diuris fragrantissima* wild and reintroduction sites in Melbourne's western suburbs.

The group has volunteered their services to DELWP to help monitor orchids and carry out searches. These searches have been to monitor orchid recovery after burns (wildfire and fuel reduction), check new areas for endangered orchids, hopefully finding new populations to increase their likelihood of survival, check areas for their suitability as reintroduction sites, and search in and around known populations of endangered orchids to determine the extent and number of orchids in the population.

The group has been involved in pollinator baiting, to identify the pollinators of endangered orchids and to check potential reintroduction sites for the presence of the pollinator. A successful reintroduction requires the presence of the pollinator.

One of the major activities over the past 10 years has been to assist DELWP and in later years the RBGV in conducting searches in western Victoria in late September and early October. The Conservation Group has set aside a week to assist these departments with searches or pollinator baiting as they see fit. Normally there are 20 or more volunteers, most skilled in finding and identifying orchids, which is a major multiplier of effort. Normally there would only be one or two departmental officers conducting a search, but with ANOS help they have ten to twentyfold more 'search hours' per day. This can be critical when searching for an orchid which may only be in flower for a week or so. A great deal more area can be covered, or an area can be searched more thoroughly. These week long searches have great rewards for the volunteers. While some days can be long and dreary, especially if the weather is inclement and few orchids are seen, others are quite exciting, especially when there are new or unexpected orchids found.

Sometimes there are days which leave you speechless. One was in October 2012 at Mereek, near Edenhope in western Victoria where there had been a wildfire in February 2012, followed by good autumn and winter rains. We were searching the area for *Caladenia formosa* which is both state and federally listed as vulnerable. We were expecting to see a good variety of species, but not a veritable wonderland of orchids and other wildflowers. There was not a moment throughout the day when there wasn't an orchid in sight, and there were frequently hundreds in view, including good numbers of *C. formosa*.

Other searches at this time of year concentrated on *C. hastata, C. valida, C. colorata, C. versicolor, C. fulva, C. xanthochila, C. dilatata, Pterostylis cheraphila, P. cucullata* and *Thelymitra epipactoides.*

Searches for rustyhoods and ruddyhoods often entail searching for rosettes during winter, then returning at flowering time to confirm the identity of the plants. Rosettes are easier to spot than flowering plants, and the distinctive rosette has withered at flowering – unfortunately for the searcher there are usually no other orchids in flower at this time. Ruddyhood searches have included searches for *Pterostylis despectans, P. xerophila, P. basaltica, P.*

lingua and *P. valida* (listed as *P. excelsa* in World Checklist of Selected Plant Families, WCSPF). *Pterostylis valida* was thought to be extinct until it was rediscovered in 2009 some distance from its type location. Searching by ANOS Victoria helped to increase the number of known plants from less than 50 to over one thousand growing at several sites.

ANOS members have also been involved in searches for *Pterostylis chlorogramma, Prasophyllum anticum, P. niphopedium, P. chasmogamum, P. canaliculatum, P. frenchii, Corunastylis* sp. aff. *nudiscarpa* (listed as *Genoplesium nudiscapum* in WCSPF) and *Caladenia pumila*. Searches for all except *Prasophyllum anticum* and *C. pumila* have either found new populations or increased the number of known plants.

Searches can also find other threatened species. In one reserve we found large numbers of the endangered Wimmera Bottlebrush, *Melaleuca wimmerensis*. During a search of Long Swamp, near Nelson, we came across a very surprised Swamp Skink, *Lissolepis coventryi* – surprised because it quickly dived into a yabby hole when we approached it, only to be squirted back out when I stepped on the soft mud next to the hole. The skink was caught, photographed and its identification subsequently confirmed. The species is listed under the Flora and Fauna Guarantee Act as vulnerable in Victoria. Another exciting find was the discovery of a large population of the damselfly *Hemiphlebia mirabilis*, or ancient greenling by an ANOS member, Reiner Richter, who combines a passion for orchids with a passion for damselflies and dragonflies. The ancient greenling was only known from two small populations to the east of Melbourne before Reiner found thriving populations at Long Swamp in 2008 and other populations in swamps along the western Victorian coast and into South Australia. His observational skills also led him to rediscover the yellow and black Ladybird, *Micraspis flavovittata*, which hadn't been seen since the 1940s at Long Swamp.

Searches cover a wide variety of habitats, from alpine meadows to desert and swamps. Two memorable searches were of Long Swamp in western Victoria – apart from seeing the ancient greenling and swamp skink. Two exhausting days were spent walking through mid-calf deep water, with the constant risk of breaking through the surface vegetation to be thigh deep in mud. We took an hour to travel less than 200 metres through thick scrub to get out of the swamp, most of us questioning our sanity!

We have conducted searches for Dr. Noushka Reiter over quite a few years, firstly when she was a Biodiversity Officer for DSE (a prior incarnation of DELWP), then with the Wimmera CMA as Orchid Conservation Officer, now with the RBGV based at Cranbourne (thanks in large part to a grant from the Australian Orchid Foundation (AOF) to RBGV). Over the last two to three years we have concentrated on either searching potential reintroduction sites for the lack of the species being reintroduced, or searching for pollinators by pollinator baiting.

Many spider caladenias release the sex pheromones that attract Thynnine wasps (different pheromones for different species of wasp), using sexual deception to dupe the wasps into pollinating the orchid. Pollinator baiting involves placing cut *Caladenia* flowers of the species to be reintroduced in the potential reintroduction site, and standing by with an insect net to catch wasps attracted to the flowers. If there is no response in 3-5 minutes the flowers are moved about 10 m and the process repeated. Ideal conditions for pollinator baiting are temperatures in the low twenties and light winds. Baits are usually set up along paths or tracks, as the wasps often patrol along paths until they scent the pheromone trail then follow the trail to its source. This can be quite good fun if the wasps are active, but it can lead to a long day if no wasps are seen.

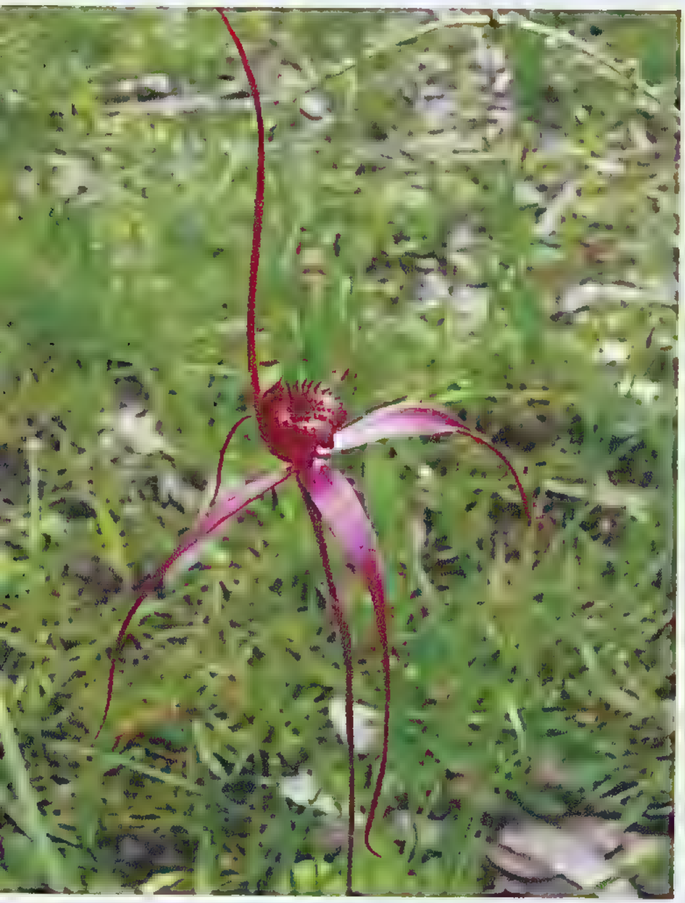
Another activity of the Conservation Group is reintroduction of terrestrial orchids into the wild. The various incarnations of DELWP, the Wimmera Catchment Authority and RBGV have all been active at different times in orchid reintroductions, and ANOS Victoria has assisted each organisation with planting. Initially the plantings had variable success, but success with later reintroductions has increased with experience. The planting experience can be quite varied, from planting *Thelymitra epipactoides* in ankle deep water, due to heavy rains, to planting *Caladenia fulva* in rock hard soil. The holes for the plants had to be dug using a heavy screwdriver and a Mash hammer. This is probably the most rewarding of the Conservation Group activities, especially when the introduced plants flower, are naturally pollinated and set seed. Even better is when new seedlings appear and the reintroduction is on the way to being self-sustaining.

Plants that we have helped to reintroduce include *Caladenia fulva, C. cruciformis, C. hastata, C. versicolor, C. xanthochila, Diuris fragrantissima, D. dendrobioides* (listed as *D. punctata* var. *punctata* in WCSPF) , *D. punctata, D. basaltica, Pterostylis chlorogramma, P. valida, P. xerophila, Thelymitra epipactoides* and *T. mackibbinii* (listed as *T.* × *mackibbinii* in WCSPF).

This year there is no south west trip planned. Instead there are several planned pollinator baiting trips during September and October – weather conditions permitting. Involvement in the Conservation Group is never dull, with trips all over the state, varied habitats and a multitude of different tasks. It is little wonder that most activities have plenty of volunteers.

Neil Anderton is active in conservation in Victoria and raises terrestrial orchids from *in vitro* culture.

Caladenia hastata



Caladenia formosa

Caladenia dilatata (triple headed)

Dendrobium John's Charm – is it or isn't it?

Text by Dave Groffen
agroffen4 @bigpond.com

Over the years there have been a number of high quality seedlings of this cross grown and shown, mainly in Queensland. 'Myrtle' and 'Bruno' are two examples. Most of the plants of this hybrid have probably been made using *Dendrobium discolor* and the species currently accepted as *D. trilamellatum* as parents. There are also yellows resulting from the crossing of *D. discolor* var. *broomfieldii* with the yellow form of *D. trilamellatum.*

Recently the name of the hybrid has been brought into question with the resolution of synonyms and having regard to the issue of priority. *Dendrobium* Johulatum must also be considered in this discussion as the Royal Horticultural Society (RHS) online database currently shows:

1. *D.* Rosalind Quek Choon Lin = *D. discolor* x *D. trilamellatum.* Registrant Quek Chiap Soon 1960.
2. *D.* Johulatum = *D. discolor* x *D. johannis.* Registrant Min Korsman 1983.
3. *D.* John's Charm = *D. discolor* x *D. semifuscum.* Registrant: D'Bush 1984.

An examination of the characteristics of the species involved may help:

Dendrobium johannis Rchb.f. 1865 – plant and flowers somewhat smaller than *D. trilamellatum*, segments less twisted. Tends to have "chunky" dark brown flowers and flowers in late autumn.

Dendrobium trilamellatum J.J. Smith 1908– flowers yellow brown, generally not as dark as *D. johannis* but larger than that species. A very attractive large flowered form exists (some call it 'variety *giganteum*'). Flowers in spring.

Both are northern Australian species which also occur in southern New Guinea.

Dendrobium semifuscum was described by Lavarack & Cribb in 1980, but after further study it was reduced to a synonym of *D. trilamellatum* by Cribb (*Kew Bulletin* 41(3)1986). It is currently considered a synonym in the World Checklist of Selected Plant Families.

Dendrobium discolor is widely distributed in Queensland from Agnes Waters, Central Queensland, northwards to New Guinea. It is a large to very large plant, with pseudobulbs up to 5 m long (more usually about 3 m) and flower racemes 1.5 m long. Known as the golden orchid, the typical colour form is yellow with a brown overlay. An earlier and widely used synonym for *D. discolor* was *D. undulatum*, and there are no hybrids currently in the RHS database using that name.

To further complicate matters, for many years until the determinations in Cribb's 1986 publication became more widely known, *D. trilamellatum* was known as *D. johannis* var. *semifuscum.* Hybrids were made and registered using only the name *D. johannis* as the parent since varietal names were not recorded in the RHS database.

Thus there is no way of knowing for certain which parent was actually used in any hybrid registered as having *D. johannis* as a parent. Examining the plant and flowers and looking for the inherited characteristics from the species as described above is all that can be attempted.

Conclusion

There are three currently accepted distinct species that could be involved in the hybrid grexes we are analysing – *D. discolor, D. johannis* and *D. trilamellatum.*

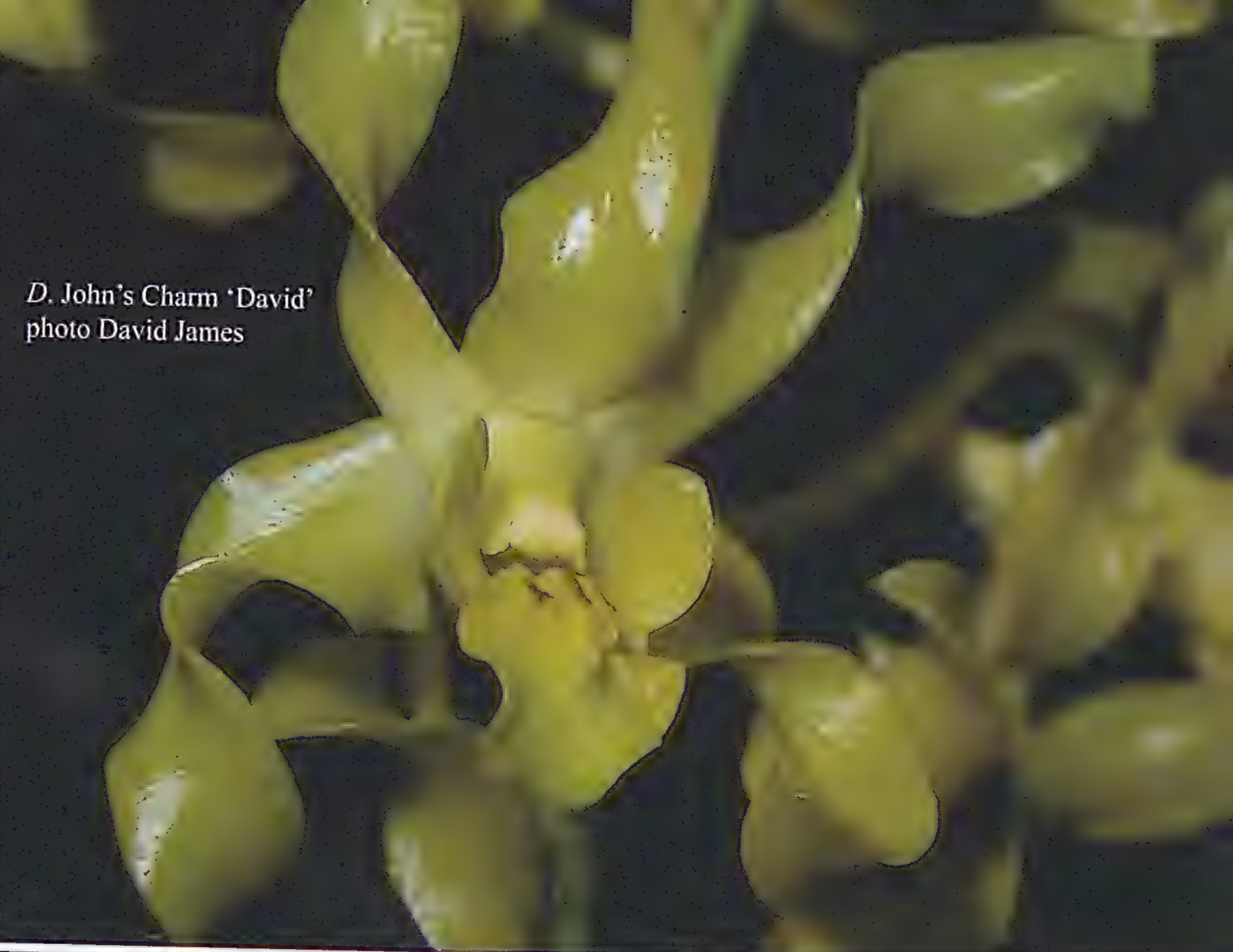
The correct name for the hybrids is as follows:

***D.* Rosalind Quek Choon Lin** = *D. discolor* x *D. trilamellatum*

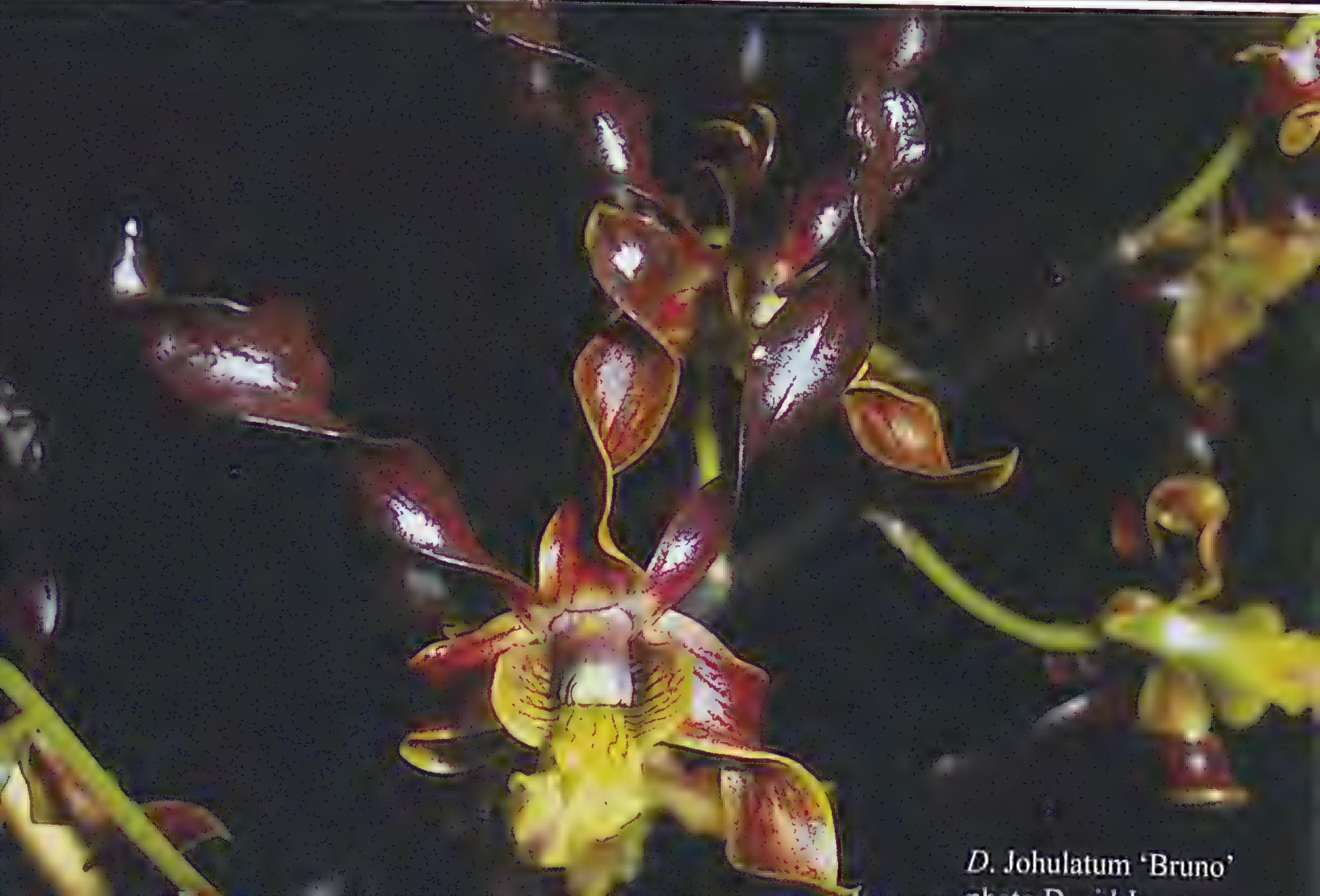
(The name 'John's Charm should not be used as one of its registered parents is not an accepted species due to synonymy)

***D.* Johulatum** = *D. discolor* x *D. johannis*

Dave Groffen is an ANOS Judge and National Registrar of Judges.



D. John's Charm 'David'
photo David James



D. Johulatum 'Bruno'

Keith Skaines: Stalwart of the Orchid Community

Text and photographs by Roslyn Capell
capell666@ozemail.com.au

Introduction

Orchid society memberships fluctuate over time. Some people float in and out quickly, some stay a few years before moving on, but there is always a core group of dedicated long term members who keep the society going. ANOS Far North Coast Group was formed on 12 February 1981, and Keith Skaines joined on 21 September 1982. He has been a steadfast and enthusiastic member ever since. He was president for four years and has now been secretary for over 23 years. At the 2015 Christmas party he was presented with a plaque acknowledging his outstanding service over many years. Keith's cousin, Kevin Foster, made the presentation and prepared a tribute which is the basis of this article.

Keith is well known to the Australian orchid community from Adelaide to Cooktown and Laura and *Dendrobium* Peewee 'Keith' was named after him. I met Keith at one of Ken Russell's shows at Dungog around 1990. He attended orchid events such as the St Ives Orchid Fair, travelling with Grahame Muller of Orchidaceous Books. Keith is a gregarious and helpful person, but it wasn't until I joined ANOS Far North Coast Group that I really got to know him.

Beginnings

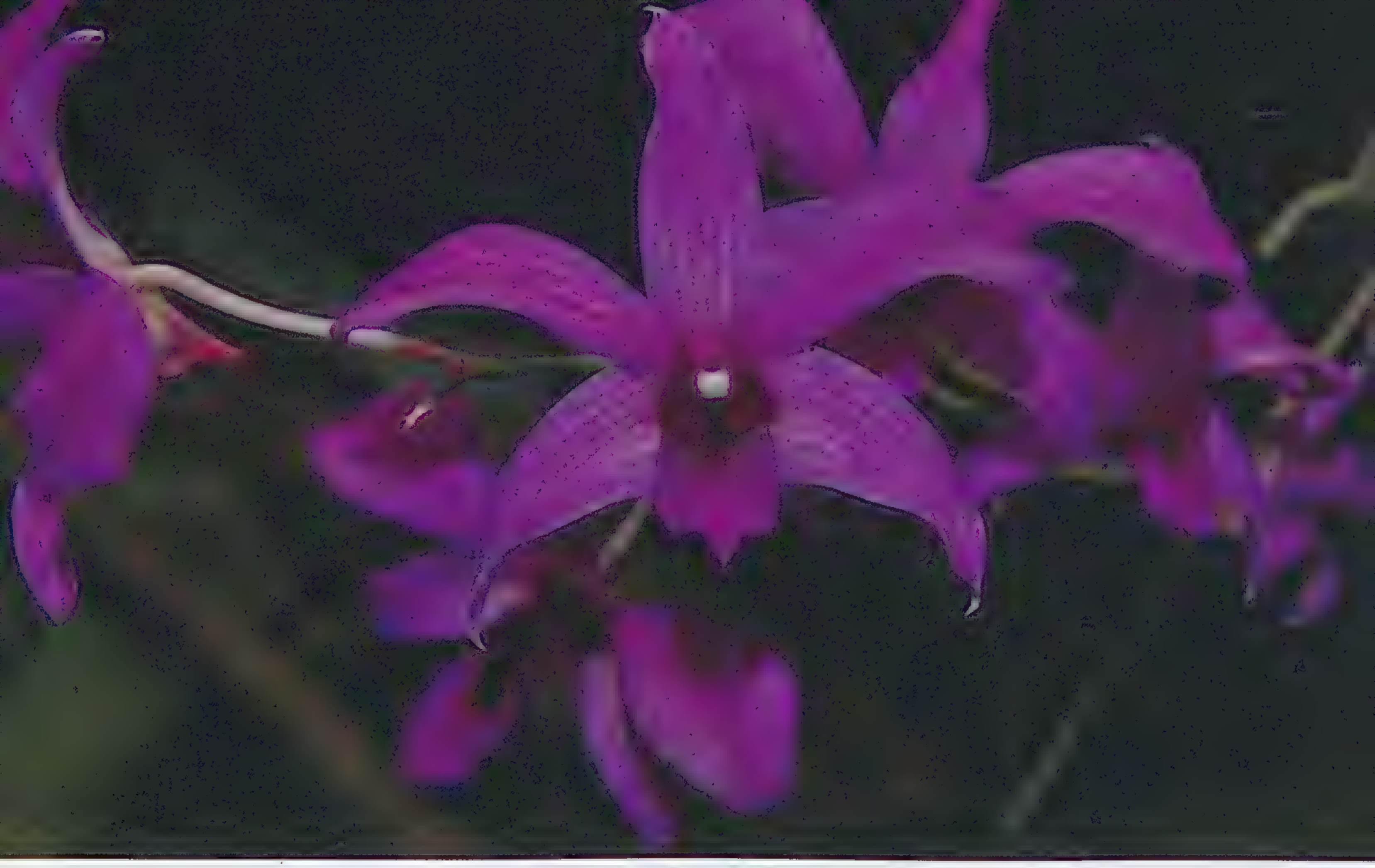
Keith was born to Ray and Mary Skaines of The Channon (18 km NS of Lismore, New South Wales) on 19 Dec. 1932. Both came from dairy farming families and after a few years bought their own dairy farm in that area. He was introduced to Australian orchids at an early age. His mother had a small collection from their farm, mainly *Dendrobium speciosum* var. *hillii*. Keith collected his first orchid when he was 10 or 11. Neighbours had a very large *D. speciosum* growing on their property and Keith collected it for his mother, and set it up on a bed of rocks. At 17 when he was fishing with his sister they collected a *Phaius tankervilleae* near Jerusalem Creek, which his sister thought was arrowroot. He still grows pieces of that *Phaius*. Keith learnt to care for his mother's orchids but did not start growing orchids himself until he had his own home. He grew a few exotic cymbidiums in his backyard before he married, but has concentrated on natives ever since.

Keith married Nell in 1971 and they moved to their present Ballina home in 1973. The first priority was to build a garage, and the orchid houses had to wait their turn. Keith was working as a transport driver and he was often away, so it wasn't until the early 1980s that his first orchid house was ready. In 1982 Keith went to a meeting of Ballina Orchid Society and was directed to the native orchid society. He has continued to support Ballina Orchid Society, and in 1983 he made pipe frames for hanging plants which both societies continue to use.

Exploring the Bush

At ANOS Far North Coast Group, Keith met Stewart Penman and Dennis Lynch and they quickly struck up a friendship and went bush together every weekend in spring. Keith has climbed over every mountain between Tweed Heads and Kempsey, exploring the hills and escarpments and gullies, observing many species *in situ*. He has been over Blue Knob four times! He particularly remembers a trip to Kunderang, about 60km west of Kempsey, in a remote part of what is now the Oxley Wild Rivers National Park, and part of the Hastings-Macleay Group of the rainforests of Australia World Heritage Area (1986). These forests comprise the most significant remaining rainforest patches in Northern New South Wales and South Eastern Queensland.

The Kunderang area had originally been cleared for grazing in the 19th century and the East Kunderang homestead was built from local red cedar in the 1890s. At the time of Keith's visit, the property had become run down but there was still someone living there who had driven cattle to the area with his wife many years before, taking four weeks to drive the stock to the property from Kempsey. After his death the property became part of the National Park. Keith saw his first *Sarcochilus hartmannii* in the wild at Kunderang, growing on grass-covered rock ledges. It was the southern form of the species. He also saw *S. fitzgeraldii*, *D. speciosum* and *D. falcorostrum*. There was not a beech tree in sight; the *D. falcorostrum* was growing on the top of large granite outcrops which were 2 m high.



D. Tegan's Pride

Kevin Foster making a presentation to Keith Skaines (R) on behalf of ANOS Far North Coast Group

Keith has had a long term interest in *Cymbidium canaliculatum* and made a number of trips to 'canaliculatum country', several with Roger Herraman. Over the last four years, Keith travelled to far North Queensland in spring. He went with Nell the first two years but the last two years has travelled with Kevin Foster and Bob Smith. He has seen many orchids, including *D discolor* on rocks so close to the ocean in the Cape Tribulation area that they were being splashed by salt water.

Growing and Hybridising

Keith started with collected species, but was soon buying from catalogues. He started exhibiting in local orchid society shows, and in 1988 won Champion for Culture and Best Specimen at Ballina Orchid Society's spring show (an achievement he repeated in 1991), and Best Specimen and Champion First Flowering Seedling in 1992. *The Orchadian* Summer 1992 records that at the Far North Coast Group show Keith won Champion Australasian Orchid with *Dendrobium* Meadie x *D. canaliculatum,* Best Culture with *D. speciosum* var. *pedunculatum*, tabled the most plants (36), and was most successful exhibitor.

Keith had never won Grand Champion or Reserve Champion until the Far North Coast Group Spring 2015 show, when his bright pink *Dendrobium* Warringah was Champion Hybrid and Reserve Champion. A photo of the plant appears in *The Orchadian* March 2016.

Keith has made hundreds of hybrid crosses, most being repeats of registered crosses. A lot were exotic hard-cane dendrobiums which he grew on to flowering size and sold to help with the cost of supplies for the orchids he was really interested in. Hard-cane dendrobiums grow fast and flower early, making a quick return on the investment. Keith can flower them 18 months out of flask. He has never done any flasking himself.

When Keith could not get pods to set on *D. bigibbum* he sought Ken Russell's advice and was advised to pollinate on the full moon. It worked, but then he found he had success at any time, yet he still finds that if he is having trouble getting a plant to set a pod, trying again at the full moon usually works. He hasn't made any hybrids for a few years but has plans for pansy dendrobiums and bigibbums.

Registered Hybrids

Keith met Wal Upton and Ken Russell in the early 1980s. He was interested in *D. biggibum* and Ken was advertising plants of var. *compactum* for sale so he made contact and also purchased seedlings of *Cymbidium* Australian Midnight (*C. canaliculatum* x *C. atropurpureum*), becoming the first person to flower one. *Cymbidium atropurpureum* is a South-East Asian species with a wide range, but does not extend into the area defined by ANOS as Australasian. One of the three hybrids Keith originated and registered is *C.* Son of Midnight (*C.* Australian Midnight x *C. canaliculatum*).The two other crosses are named after his grand-daughter: *D.* Tegan's Delite (*D.* Peewee x *D. fleckeri*) and *D.* Tegan's Pride (*D. bigibbum* x *D. lasianthera*). *Dendrobium speciosum* x *D.* Warringah is one of many Australian crosses Keith has made but not yet registered.

Dendrobium Peewee 'Keith'

This seedling of *D. bigibbum* x *D. tetragonum* was obtained from Wal Upton in the 1980s. It became one of the most important plants in *Dendrobium* hybridising and is a cornerstone in hot/cold *Dendrobium* breeding, introducing warm-growing *D. bigibbum* into cool-growing section *Dendrocoryne* breeding lines. Keith's seedling was the only one that would reliably produce mature capsules of viable seed.

Divisions of *D.* Peewee 'Keith' were eagerly sought by hybridisers and loaded with pollen. There are approximately 300 registered hybrids with *D.* Peewee in their ancestry. Assuming that most can be traced back to *D.* Peewee 'Keith', that is quite a legacy for one plant, and it is still being used as a parent. The downside of being such a prolific breeder is that the divisions were exhausted by their reproductive efforts and few survive.

Strictly speaking, we should refer to this plant as *D.* Suzanne 'Keith'. A plant of *D. phalaenopsis* was used in the parentage of *D.* Suzanne, registered in 1965, 14 years before *D.* Peewee was registered . It was collected from the bush near Cooktown (Reg Shooter, *Native Orchid Society of South Australia Journal*, September 1983, p. 74). As *D. phalaenopsis* is a synonym for *D. bigibbum*, the rules of priority dictate that the name of this hybrid is now *D.* Suzanne.

The warm house April 2016

D. discolor
April 2016

D. canaliculatum growing
a terracotta saucer

D. Peewee
'Keith'

Growing Methods

Keith has had considerable success growing a wide range of species from different climates, and friends all over Australia regularly send him plants. He has no favourites - he'll grow it as long as it's Australian.

Keith has been growing *C. canaliculatum* for many years but it was only recently that he worked out how to grow it successfully in his conditions. He has learnt by trial and error before he found the ideal spot: 10 ft above the ground at the top of his glass house where they receive full sun all year, and never have rain on their leaves. They are not watered at all between Easter and the October long weekend unless they start to shrivel, but only on a bright sunny day so they are dry by nightfall. He grows them in a mix of 2/3 cymbidium mix and 1/3 *Macadamia* husks.

About five years ago, Keith worked out a successful method for growing *D. canaliculatum* on slabs high on the east-facing walls of his orchid house and on - not in - terracotta pots and terracotta saucers suspended vertically. The slabs are pieces of fence paling covered with prickly tea-tree bark (*Melaleuca stypheloides*). He also grows *D. affine* and *D. johannis* and related species on the tea-tree-covered slabs in the same situation. These orchids are watered like *C. canaliculatum*. In the warm months he waters every couple of days, always in the morning, and feeds once a week on the day after watering. In summer they are also misted throughout the day.

Keith uses Miracle-Gro soluble fertiliser: 2 tablespoons to 30 litres, and occasionally Epsom Salts, calcium and urea. This year he is experimenting with not fertilising the cool growing dendrobiums in winter, in the hope of halting vegetative growth and inducing flowering.

Keith's 'glasshouse' has a polycarbonate gable roof and sides and is covered by white shade cloth which resists hail. There are vents in the western end of the apex and fans ensure a constant stream of circulating air. His cool house has a polycarbonate roof covered with chicken wire to protect from hail. Shade cloth on the eastern wall allows in breezes and ceiling fans operate all day to keep air moving. He no longer uses a heater as plants would flower 2 months earlier than usual. *Dendrobium bigibbum* would flower in February and the other dendrobiums also flowered too early for shows.

Dendrobium bigibbum is grown in black plastic mesh pots and small square slatted plastic baskets. The plants have responded very well, with roots growing vigorously in the mix and out the holes. The potting mix dries out quickly after watering. Plants will tolerate cool winter nights as long as their roots are dry. Keith's ideal growing medium is 2/3 bark and 1/3 blue metal, but the blue metal mix proved to be too heavy for the hanging frames, so now he uses lighter alternatives, currently 1/3 scoria with bark.

He grows a number of species protected only by a shadecloth roof, including *D. toressae, D. lichenastrum, D. wassellii* and *D. rigidum*.

Keith grows Australian orchids because he enjoys them, and likes the challenge of growing new species and improving his culture. Last year he found a spot that suits *D. discolor*, growing them outside mounted on slabs which hang on a north-facing wire fence near his begonias! They survived the 2015 winter in that position and are still doing well this July.

Dendrobium bifalce is growing near *C. canaliculatum*, but so far he has not had much success with New Guinea *Dendrobium* sect. *Latouria* species. He finds they are slow growers with thin, floppy canes - another challenge.

Ongoing Contributions

Keith has been organising bus trips and show schedules and attending to many other duties for the Group for as long as he has been a member. He has been in charge of the raffle plants for years: sourcing, purchasing, repotting, and growing them on. Over the years Keith and Nell have opened their home for monthly ANOS meetings. They also host morning teas and lunches for ANOS judges who travel down from Brisbane to judge at the spring show. Keith was made a Life Member in 1990, and in 2015 Nell was presented with a Certificate of Appreciation acknowledging her valuable and ongoing support.

Acknowledgements: Thanks to Ross Harvey and Callyn Farrell for informaion about *D.* Peewee 'Keith'.

Dendrobium speciosum at the 8th ANOS Conference and Show 2016

Text and photographs by Peter Adams

The Speciosum Spectacular associated with the 8th ANOS Conference and Show presented an array of *Dendrobium speciosum*, with a predominance of var. *curvicaule*, var. *grandiflorum*, and inter-varietal crosses involving the larger growing varieties. As in recent years, the often smaller growing varieties of *D. speciosum* var. *pedunculatum*, var. *blackdownense*, var. *boreale*, var. *carnarvonense* and var. *capricornicum* were low in numbers or absent. I have selected a few plants as a record of the display based on a range of characteristics – interesting or unusual characteristics, variation, challenges to judges and quality.

Dendrobium speciosum var. pedunculatum 'A43' (photo page 396)

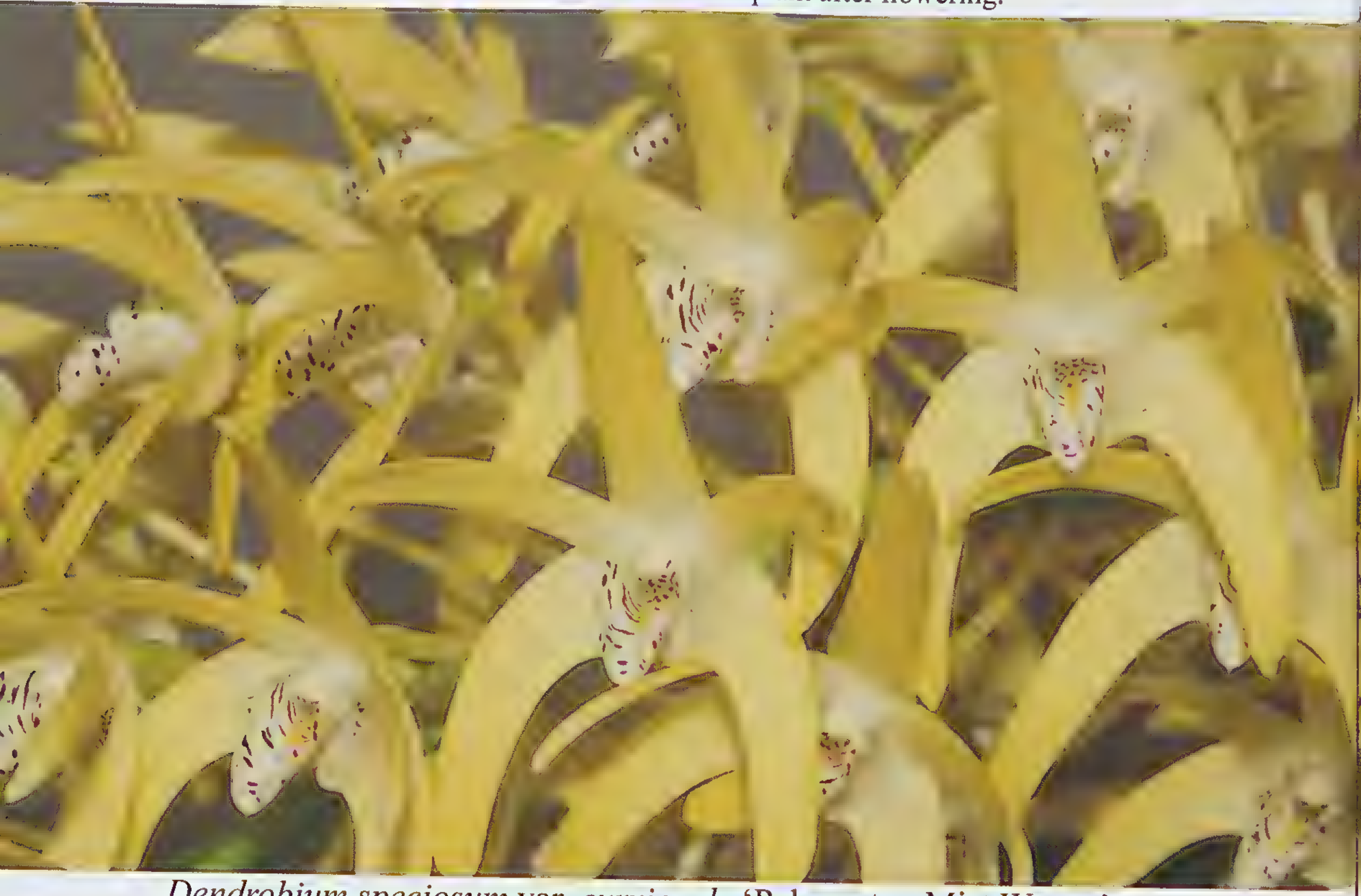
There were two exhibits in Class 11, Other Varieties. This was the only plant correctly identified in the class. It was a true var. *pedunculatum* with very short stems (pseudobulbs) 7 cm long with erect racemes of around 45 flowers, one stem bearing two racemes, which is unusual in this variety. The flowers were small but well presented, cream with deep purple spots on the labellum.

Dendrobium speciosum var. speciosum 'National White' x 'George's River Special'

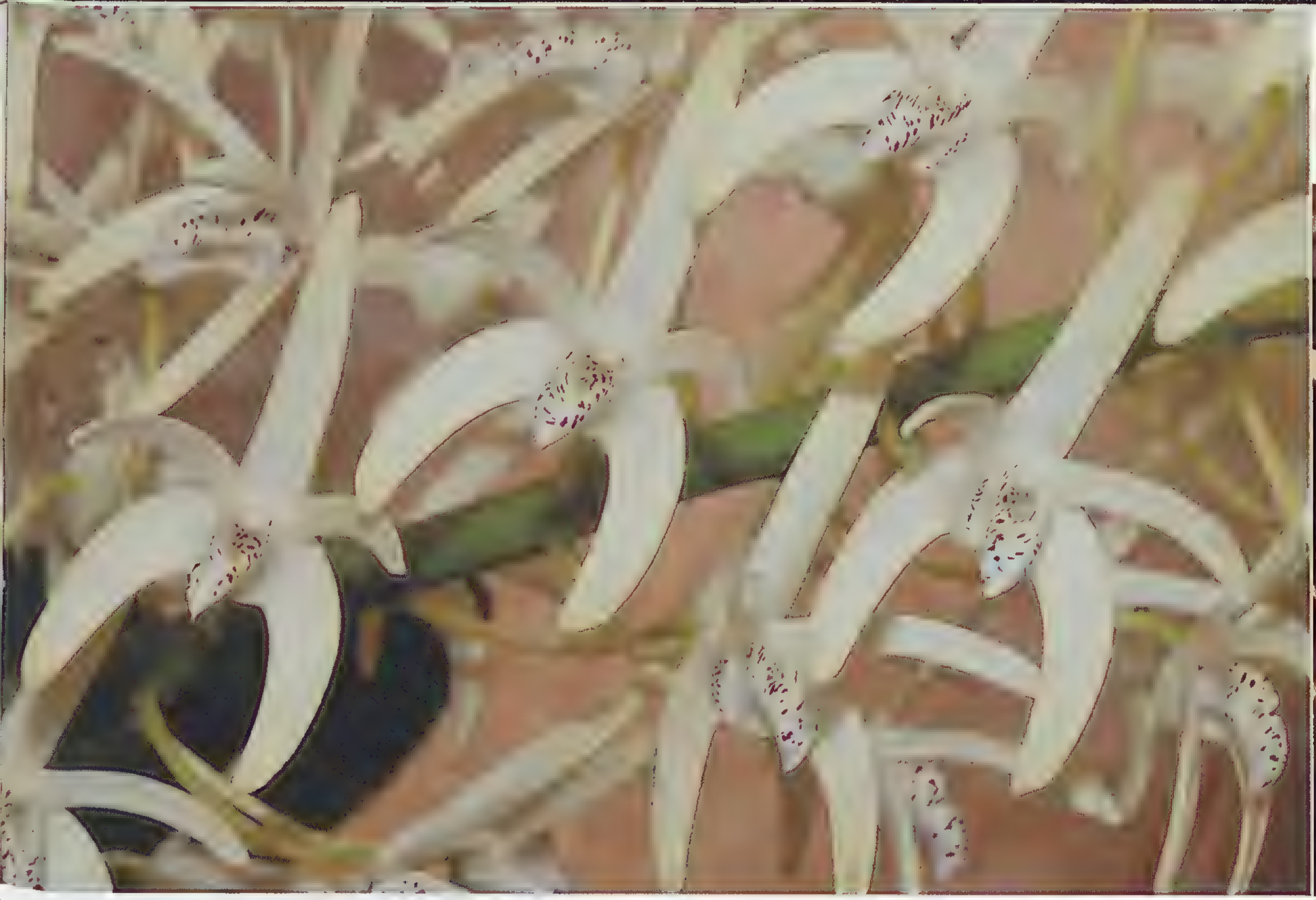
This plant owned by Ted and Winsome Walmsley had 3 racemes with some buds to open. Flowers were well presented and nicely spaced. It was awarded 1st prize above another Walmsley seeding, *D. speciosum* 'Winderemere' x 'Watellow', with a single raceme of crowded yellow flowers of superior form. Three issues presented to the judges when making their decision – the number of racemes in relation to plant size, quality of individual flowers and the degree of crowding of flowers.

Dendrobium speciosum var. grandiflorum 'William'

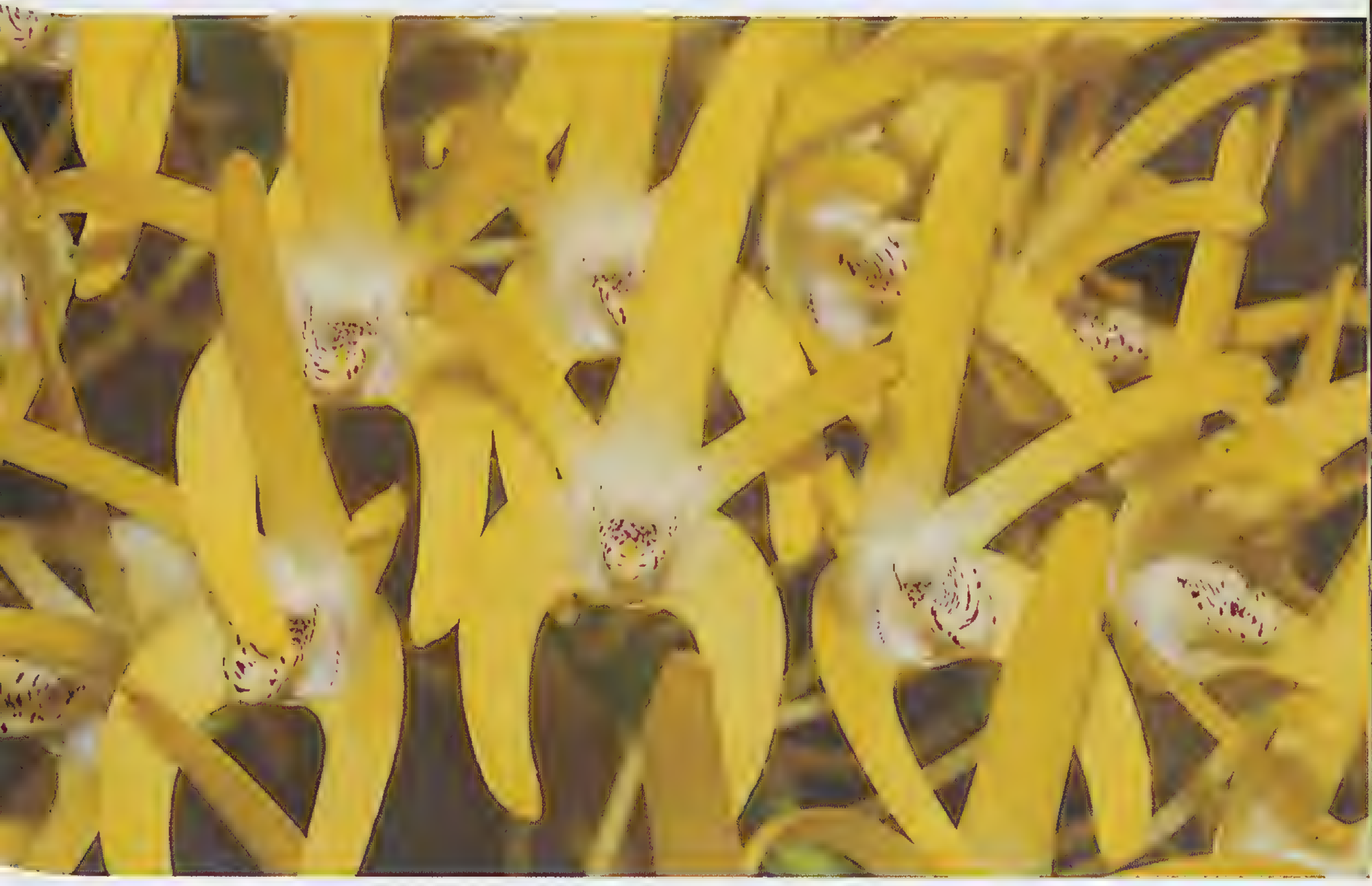
A large robust plant with 4 arching racemes of medium length bearing well presented rich yellow flowers. The absence of flowering on >50% of the plant was the main negative feature, beyond the control of the grower, who may choose to divide the plant after flowering.



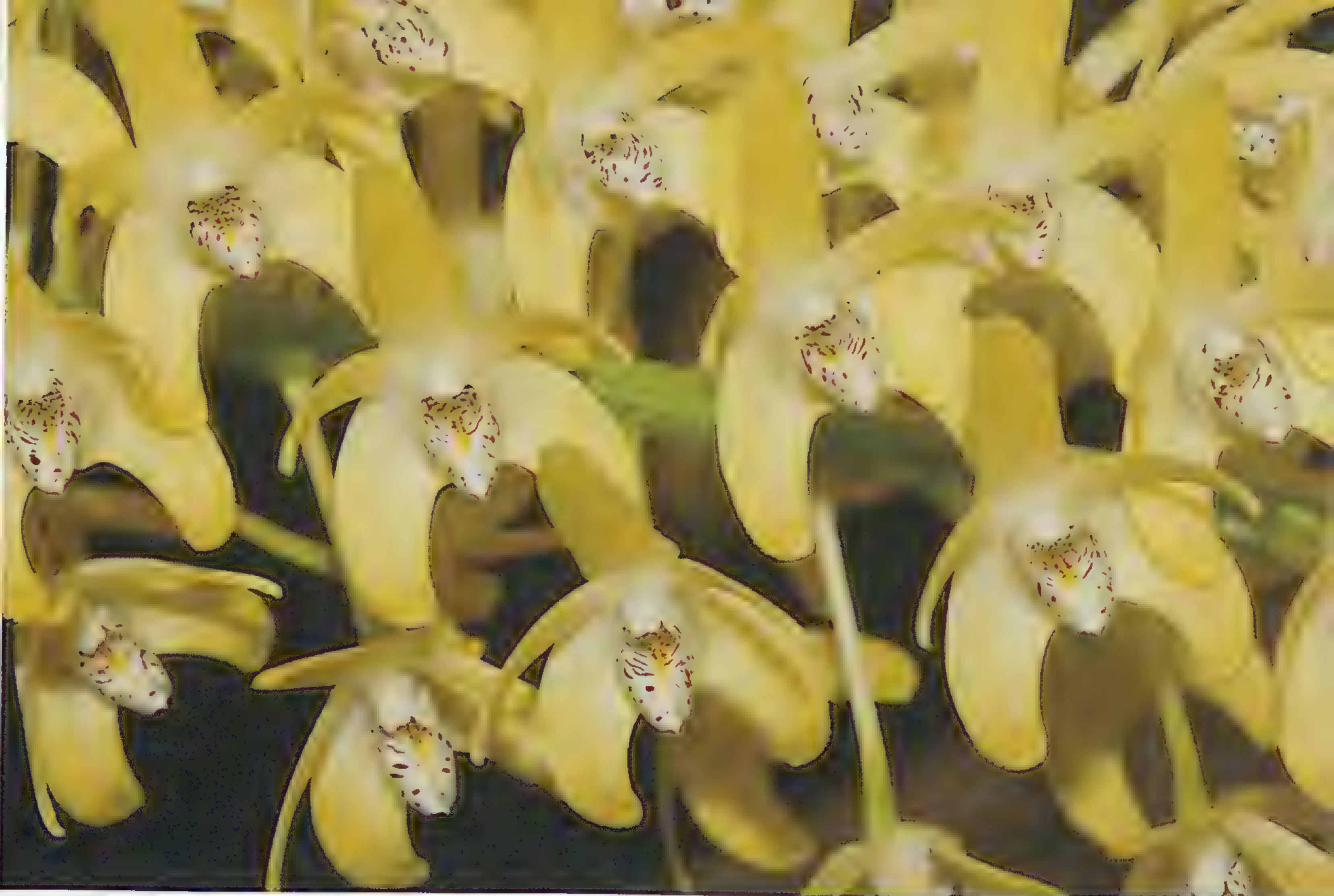
Dendrobium speciosum var. *curvicaule* 'Palmerston Mist Wayne'



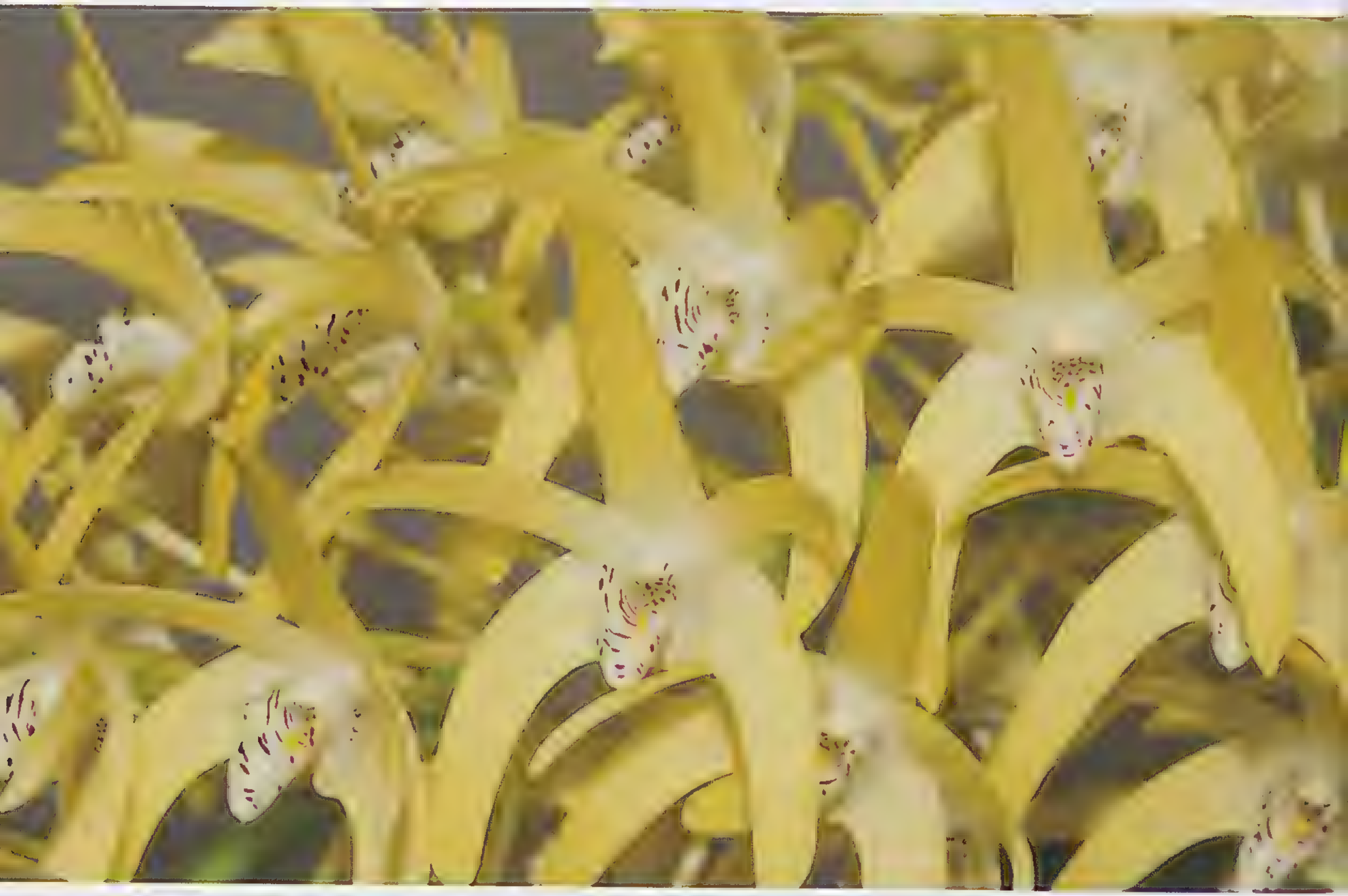
Dendrobium speciosum var. *speciosum* 'National White' x 'George's River Special'



Dendrobium speciosum var. *grandiflorum* 'William'



D. speciosum var. *pedunculatum* ('Red A' x 'Red Factor') x *D. speciosum* var. *curvicaule* 'Blew Moon



Dendrobium speciosum var. *curvicaule* 'Palmerston Mist Wayne'

D. speciosum var. _pedunculatum_ ('Red A' x 'Red Factor') x _D. speciosum_ var. _curvicaule_ 'Blew Moon'

There were several similar examples exhibited of this crossing in Class 12, *Dendrobium speciosum* inter-varietal cross with var. *pedunculatum* as a parent. The plants were fairly large, compact with oval, erect leaves and arching racemes bearing chunky, well shaped, smaller very attractive cream flowers. All of the plants of the crossing on display had similar high quality flowers. The best of them had 2 long racemes on either side of the exhibit, creating a pleasing balance. The flowers had heavy texture with prominent deep purple areas on the labellum. The plant was awarded HCC/ANOS on the Sunday morning.

Dendrobium speciosum 'Ivory Star' x 'Daylight Moon' (photo front cover)

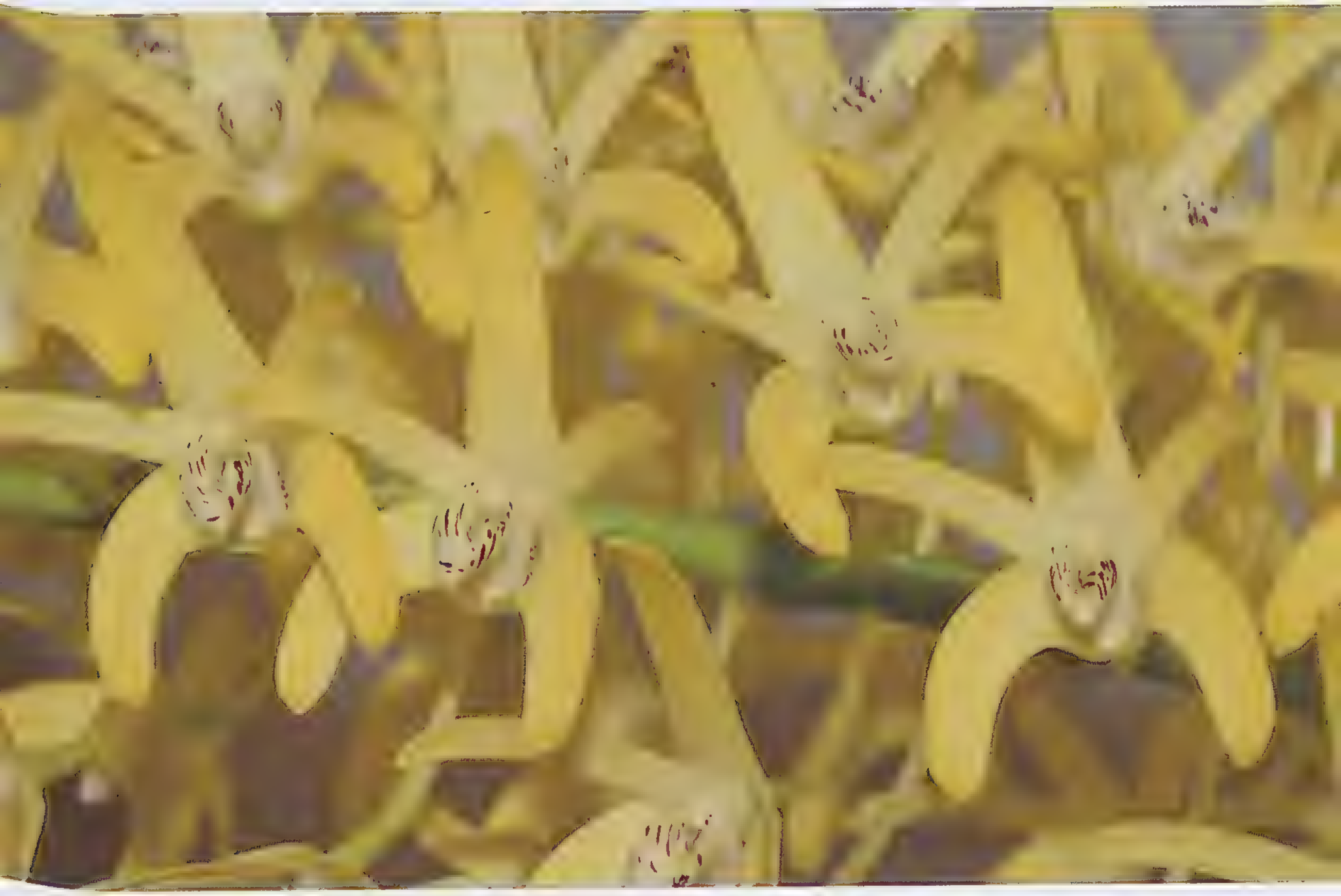
This was an extremely floriferous large plant with tall, narrow stems somewhat dissimilar from both parents. Almost every stem capable of flowering had long attractive racemes, extending over all the plant, a total of 18 arching racemes of very well presented medium sized gold flowers. The plant received ACC/ANOS at AM level.

Dendrobium speciosum var. _curvicaule_ 'Palmerston Mist Wayne'

A large plant with 3 long arching racemes with well presented yellow flowers that open widely and which featured a deeply purple-barred labellum. The mid-green foliage on curved stems contributed to the overall appeal of a typical high quality var. *curvicaule*.

Dendrobium speciosum var. _curvicaule_ 'Big Yella' x self

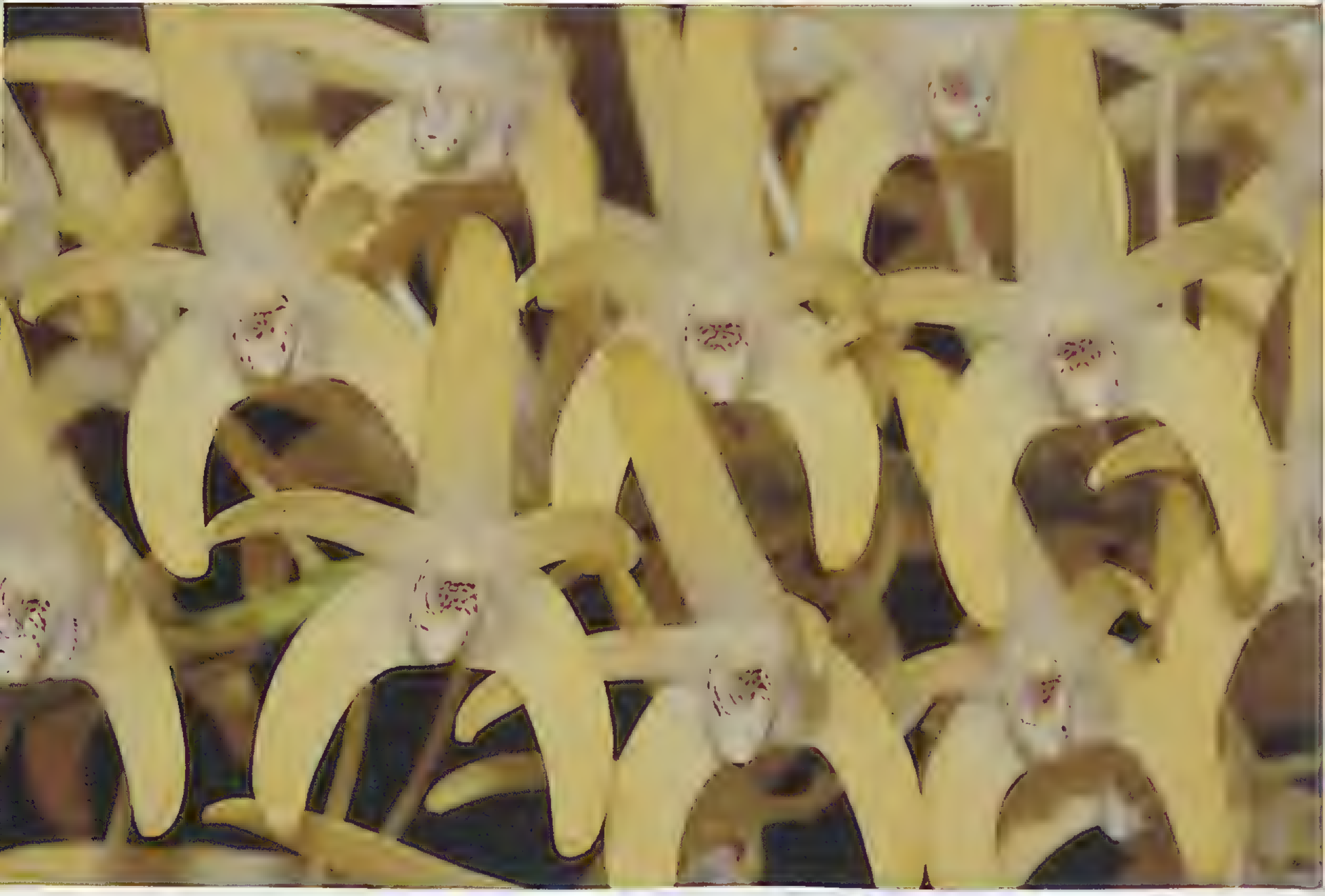
Some selfings of var. *curvicaule* have produced improved quality of offspring. This plant had tall curved stems bearing 4 upright foxtail-style racemes of small to medium sized flowers, deep yellow and well presented. Exhibits like this show that smaller flowers can be very attractive when presented optimally and in high numbers.



Dendrobium speciosum var. *curvicaule* 'Big Yella' x self

Dendrobium speciosum 'Palmerston' x 'George's River Special'

An inter-varietal crossing of var. *curvicaule* and var. *speciosum*, a moderate sized plant with one long raceme with large flowers, yellow with a paler centre. The labellum had moderately large purple bars. The exhibit had quality flowers but was not highly competitive or at award level because of low flower count for the size of the plant, not acheiving the required 60% for floriferousness.



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Dendrobium tetragonum Hybrids at the ANOS Show 2016

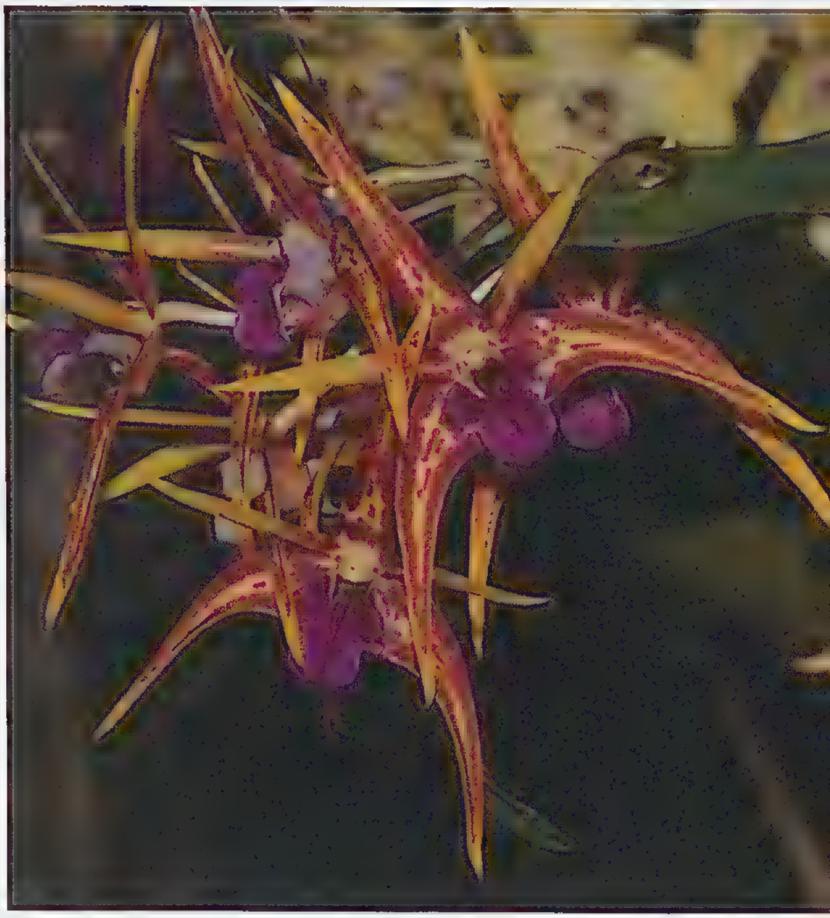
Text and photographs by Roslyn Capell
capell666@ozemail.com.au

The ANOS Conference and Show held in conjunction with this year's Speciosum Spectacular at Kempsey has come and gone. Detailed accounts will follow in due course but for now I present a few words about some hybrids that caught my attention. Since the Grand Champion was a *Dendrobium tetragonum*, I have selected hybrids that have features which are clearly attributable to that species.

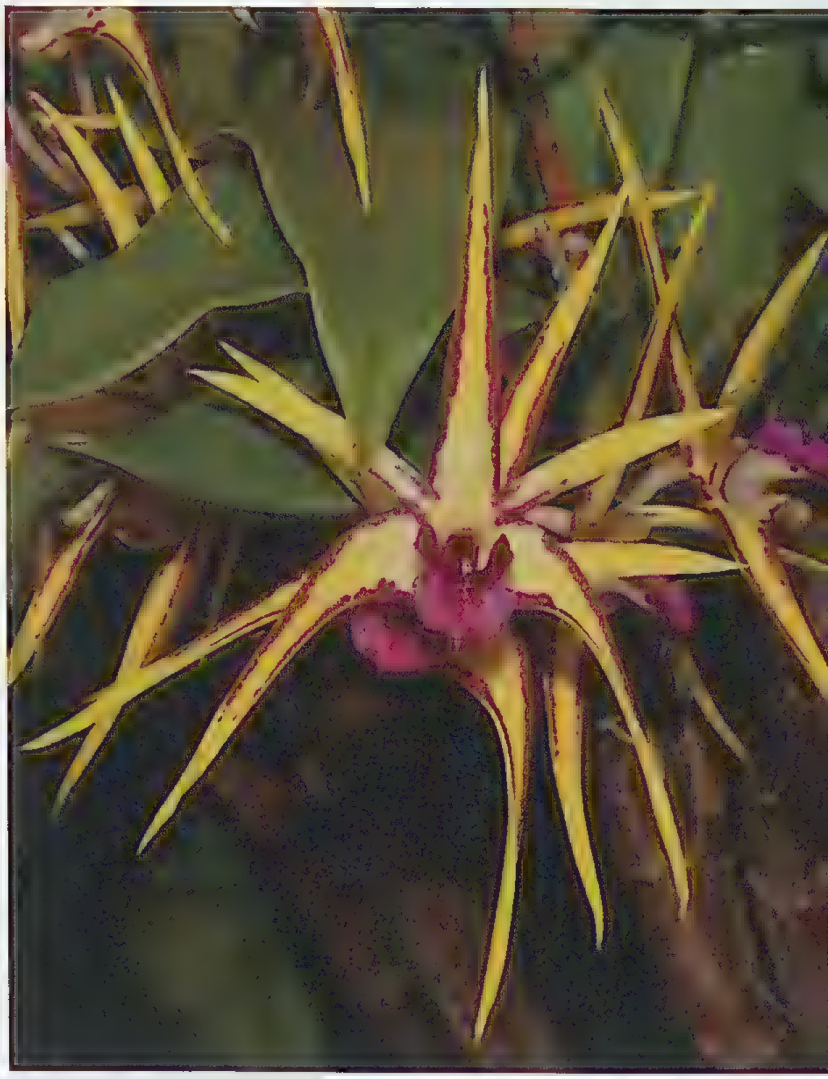
Among the many outstanding plants in Henk van den Berg's display was a well-flowered exhibit of one of my favourite *Dendrobium* hybrids: *D.* Warrior 'Jordan'. *Dendrobium* Warrior is *D.* Hilda Poxon x *D.* Ku-Ring-Gai, and was originated and registered by David Banks in 1984. It is 50% *D. tetragonum*, 37.5% *D. speciosum* and 12.5% *D. kingianum*.

The angles of the segments of 'Jordan' remind me of the Warrior poses in yoga, with arms and legs extended straight and strong. The poses are named after Veerabhadra, a fierce warrior, an incarnation of Lord Shiva. That connection would be fitting for this flower, which is simultaneously graceful and masculine and I consider that it represents the epitome of this style of hybrid.

Dendrobium Warrior 'Jordan' has never been awarded under any judging system and I cannot help wondering whether this is at least partly due to a prejudice against spidery flowers with the strong *D. tetragonum* influence, in a judging world which tends to favour round, filled-in flowers with broad segments. Perhaps it is because the peduncles are relatively short so the flowers tend to nestle on the foliage rather than being held clear of it, or maybe it has just not been out in its best condition at the right time. Whatever the case, my eyes are drawn to *D.* Warrior 'Jordan' whenever I see it in a show. It has well-balanced flat flowers with generous and well-spaced petals, straight lateral sepals and an upright dorsal. The flowers have honey-yellow tepals with clearly defined rusty-brown margins and a contrasting rhubarb labellum that is large and well displayed. They appeal very much.



D. Graham Hewitt x *D.* Rutherford Sunspot

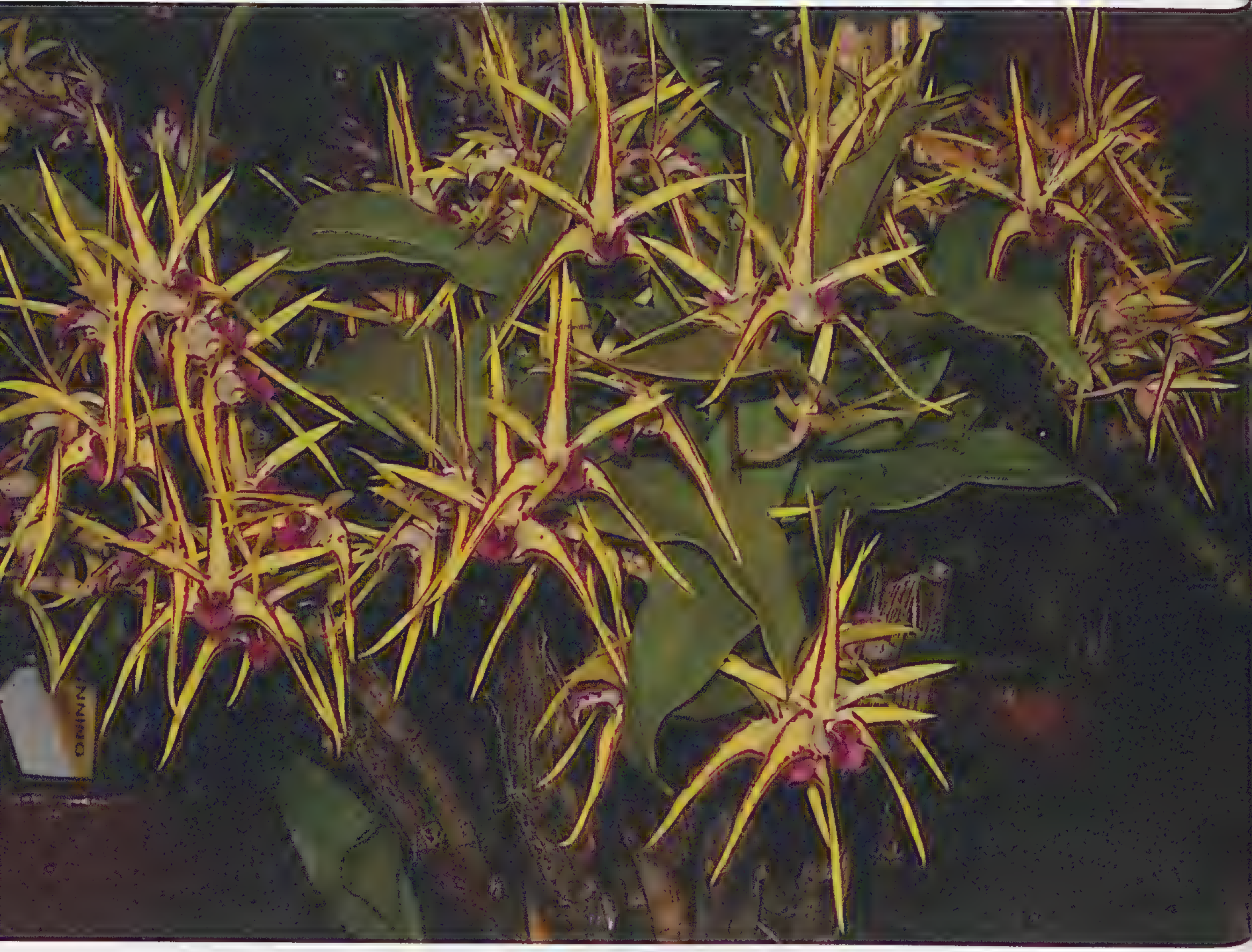


D. Warrior 'Jordan'

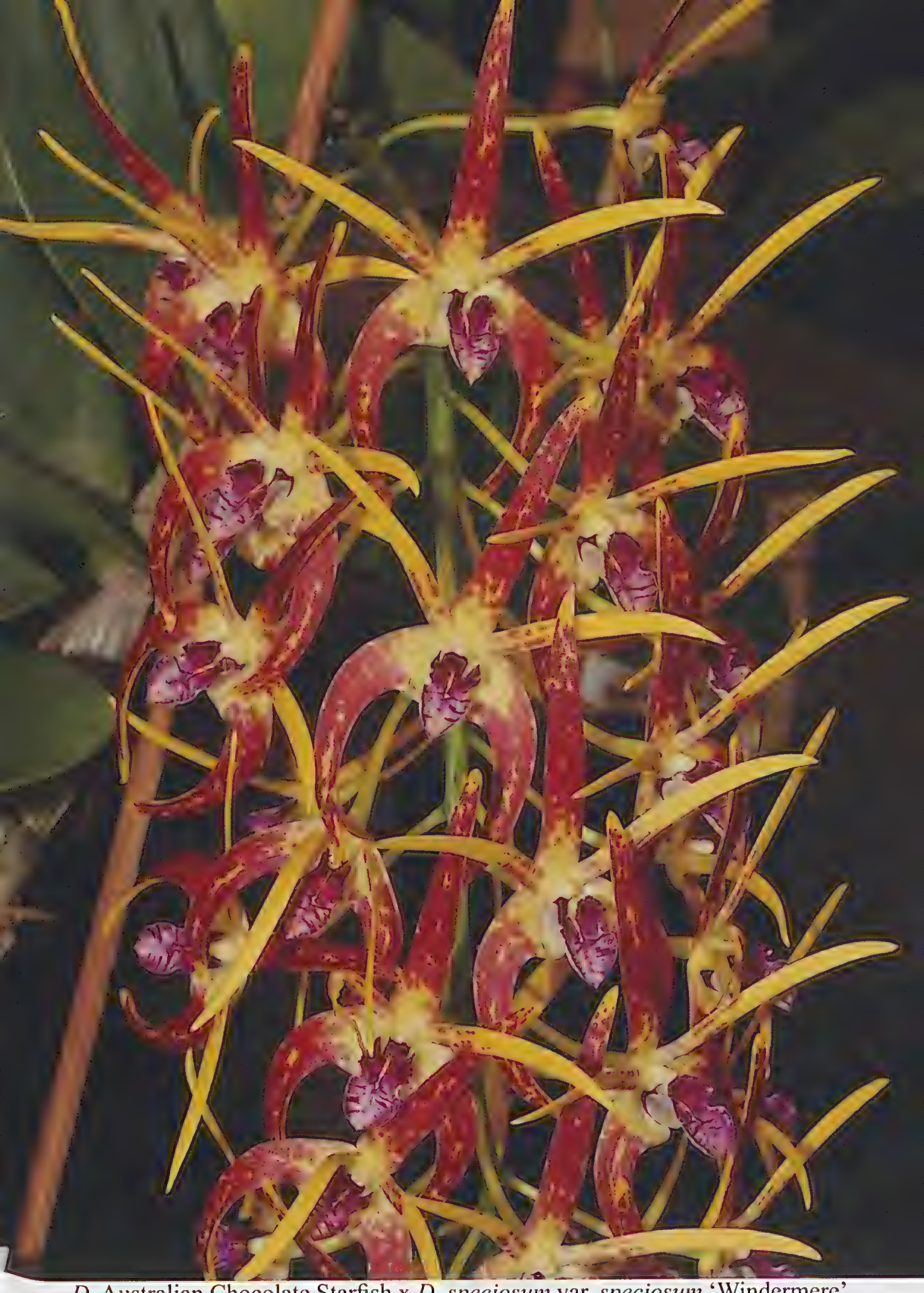
Henk's display also included a plant of *D.* Graham Hewitt x *D.* Rutherford Sunspot, which is 47% *D. kingianum*, 28% *D. speciosum* and 25% *D. tetragonum*. Considering the preponderance of *D. kingianum* in its background, one could be forgiven for expecting a *D. kingianum* style hybrid, but that is not the case; *D. tetragonum* has dominated. *Dendrobium tetragonum* declared war on *D. kingianum* and absolutely annihilated it! Perhaps there's some hint of *D. kingianum* in the growth habit, but I can't see any of it in the flowers. Regardless of the fate of the *D. kingianum* genes, the flowers are well-shaped and the rich sunset and pink shades are intense, a very attractive and colourful flower.

Champion Hybrid Seedling was Wayne Perrin's very colourful *D.* Australian Chocolate Starfish x *D. speciosum* var. *speciosum* 'Windermere'. This cross is 62.5% *D. speciosum*, 25% D. *tetragonum*, 6.25% *D. fleckeri*, and 6.25% *D. jonesii*. I noticed two plants of this grex in the show. This one had many large flowers distributed evenly around the inflorescence. The rich deep caramel colouring on the tepals and distinctive pink of the labellum were clearly inherited from *D. tetragonum*, though *D. fleckeri* could have contributed to the orange base tones. The other plant seemed to have *D. speciosum* more apparent in its habit of inflorescence, floriferousness, and flower shape, but *D. tetragonum* has left its brand in the colour of the labellum and the markings on the sepals. I could not discern any *D. fleckeri* in those flowers, and perhaps the long flat petals on both plants owe something to *D. jonesii*. This cross might represent the advance guard of a new wave of hybrids which have the flower count and habit and shape of *D. speciosum* but with very colourful flowers. It will be interesting to see more plants of this grex as they start flowering, especially as they mature and achieve their potential.

Roslyn Capell is an ANOS and AOC Judge, and ANOS Councillor



D. Warrior 'Jordan'



D. Australian Chocolate Starfish x *D. speciosum* var. *speciosum* 'Windermere'

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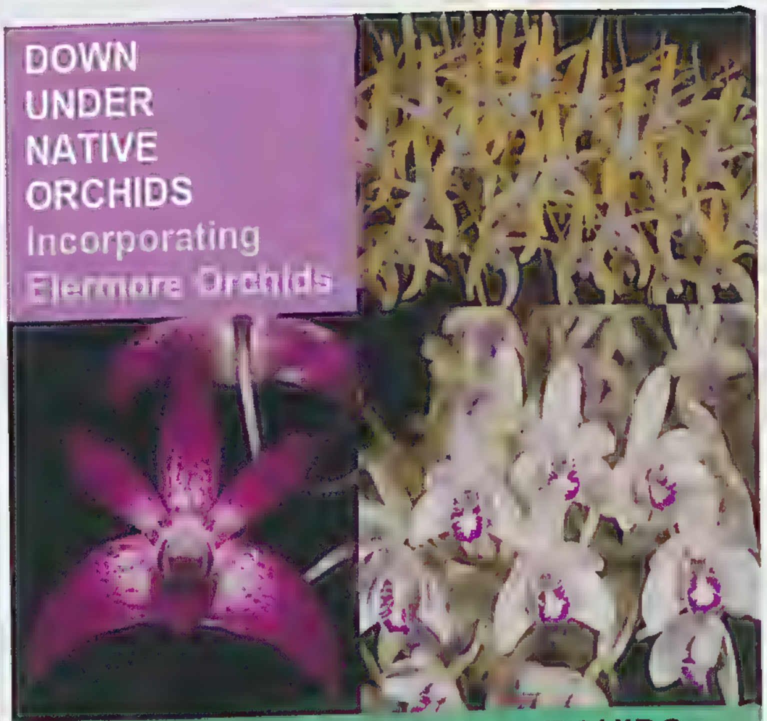

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- **Central Coast Spring Show**
  Weekend of 8 - 9 October 2016 Narara Valley Nursery, 2 Manns Road, Narara 2250 Judging at 8 am Saturday 8th
- **ANOS Illawarra Spring Show**
  Weekend of 15-16 October 2016 Old Courthouse, Cliff Road, Wollongong 2500. Judging at 7 pm Friday 14th
- **ANOS Sydney Group *Sarcochilus* Show**
  Saturday 15th October 2016 Community Church, 41-43 Eaton Road, West Pennant Hills. Judging at 9 am Saturday 15th
- **ANOS Newcastle *Sarcochilus* Show**
  Weekend of 15-16 October 2016 Windale - Gateshead Bowling Club, 2A Lake Street, Windale 2306. Judging at 8.30 am Saturday 15th
- **ANOS Geelong Annual Orchid Show**
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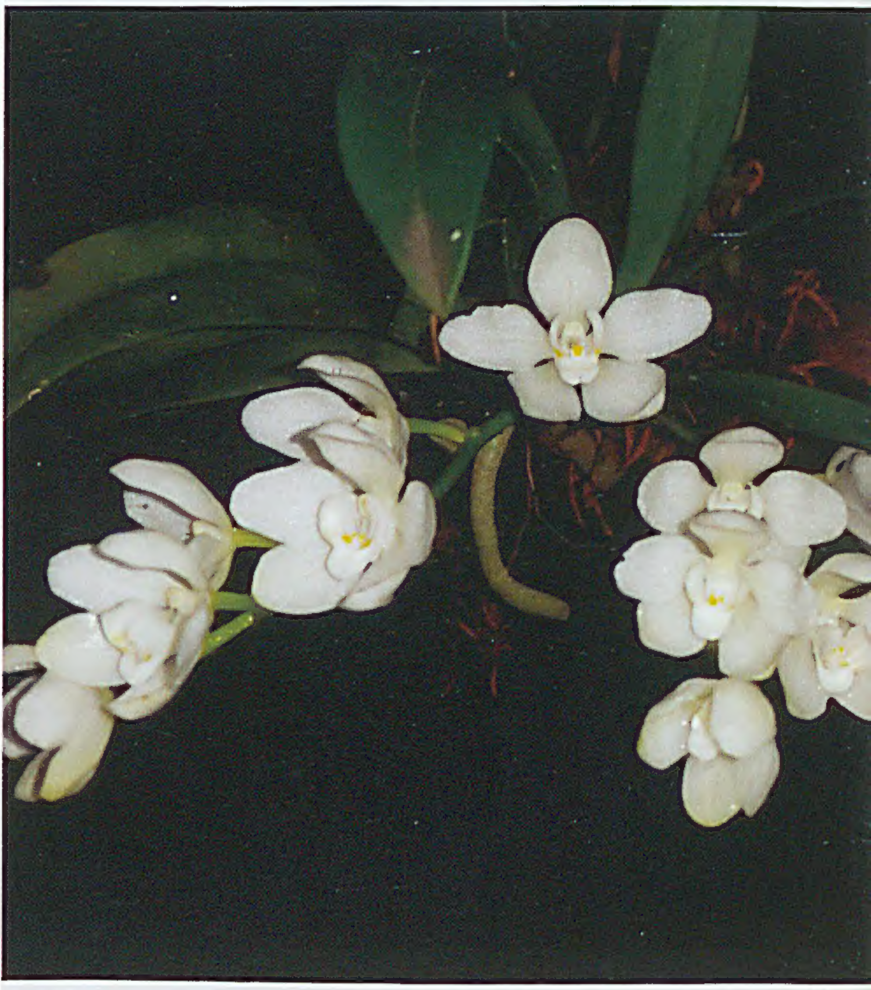
228 *Sarcochilus falcatus* 'Cambalb' HCC/ANOS 2015 (NSW)

Points	76.3
Owner	Greg Steenbeeke
Date	24 Oct.2015
Event	
Number of:	
flowers	11
inflorescences	2
Measurements(mm):	
flower across	33
vertical	26
petal	16L 9W
sepal	17L 9W
dorsal	15L 10W
labellum	9L 6W
Detailed avge points:	
shape(25)	18.3
colour(20)	15.6
size(15)	11.5
substance/texture(10)	7.8
floriferousness(15)	10.8
habit/attractive(15)	11.6



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- **ANOS Central Coast**; PO Box 3010, Erina NSW 2250 - (02) 4340 5157 2nd Wednesday each month 8pm. Narara Community Centre, 2 Pandala Rd, Narara 2250
- **ANOS Far North Coast Inc.**: PO Box 399 Ballina NSW 2478 - (02) 6686 6303 3rd Saturday eac month (except December and January), 2pm. C.W.A. Room, River Street, Ballina.
- **ANOS Illawarra**: 2 Wilford St, 2 Wilford St, Corrimal NSW 2518 – (02) 4284 8308 2nd Tuesda each month, 7pm. Old Court House, Wollongong.
- **ANOS Macarthur and District**: 43 Strickland Cres., Ashcroft NSW 2168 – (02) 4681 8589 3 Thursday each month, 8pm. Birriwa Community Hall, Fitzpatrick Rd, Mt Annan.
- **ANOS Mid-North Coast**: 69 The Lakes Way, Forster NSW 2428 - (02) 6554 9733 3rd Sunday eac month, 12 noon, followed by BBQ. Contact secretary for location - Taree or Wauchope
- **ANOS Newcastle Inc.**: PO Box 4021, Rathmines NSW 2283 – (02) 4975 3729 4th Thursday eac month , 7.30pm. Elermore Vale Community Centre, Croudace St, Elermore Vale.
- **ANOS Sydney Inc.**: 9 Alicia St, Glenwood NSW 2768 3rd Friday each month, 8pm. Senior Citizen Hall, B.H. Community Centre, Conie Ave, Baulkham Hills.
- **ANOS Warringah Inc.**: PO Box 421, Forestville NSW 2087 - (02) 9981 2525 3rd Tuesday eac month, 8pm. Community Hall, Starkey St, Forestville

QUEENSLAND

- **ANOS Beenleigh Inc.**: PO Box 1130, Beenleigh QLD 4207 - (07) 3805 1973 1st Thursday eac month, 7.30pm. Showground Hall, James St, Beenleigh
- **ANOS Kabi Inc.**: PO Box 424, Aspley QLD 4034 - (07) 3359 5752 2nd Tuesday all months excep January, 7.30pm. Isabella Griffin Room, Strathpine Community Centre, 199 Gympie Road, Strathpine
- **ANOS Mackay and District**: 24 Barton St, Mackay, QLD - (07) 4952 2186 2nd Thursday eac month, Andergrove Community Centre, Celeber Drive, Andergrove.
- **ANOS Townsville Inc.**: 92 Curie St, Wulguru QLD 4811 - (07) 4778 4311 1st Tuesday monthl (excl. Jan.) 8pm Townsville O.S. Hall, Joe Kirwan Pk, cnr Bamford Lane & Charles St, Townsville
- **Native Orchid Society of Toowoomba Inc**. 106 Umbiram Rd, Wyreema QLD 4352 1st Friday eac month, 7.30pm. Lutheran Church Hall, cnr West and Alderley Sts, Toowoomba.

SOUTH AUSTRALIA

- **Native Orchid Society of South Australia Inc.**: PO Box 565 Unley SA 5061 - (08) 8261 1550 4 Tuesday each month, 8pm. St Matthew's Hall, 67 Bridge St, Kensington

VICTORIA

- **ANOS Geelong Inc.**: 2 Cooper St, Melton South VIC 3338 - (03) 9743 6040 2nd Wednesday eac month, 7.30pm. Uniting Church Hall, Yarra St, Geelong
- **ANOS Melbourne Suburbs Inc.**: PO Box 169, Bayswater VIC 3153 4th Wednesday each mont (excl. Dec. & Jan.), 7.30pm. Montrose Primary School, Leith Rd, Montrose 3765
- **ANOS Victoria Inc.**: PO Box 308, Boronia VIC 3155 - (03) 9387 2771 1st Friday each month, 8p Toorak Uniting Church Hall, , 603 Toorak Rd, Toorak

WESTERN AUSTRALIA

- **ANOS Western Australia Inc.**: 27 Maidment Parade, Dalyellup WA 6230 - 04 1990 1335 2nd Monda each month, 8pm. Wilson Community Hall, Braibrise Rd, Wilson

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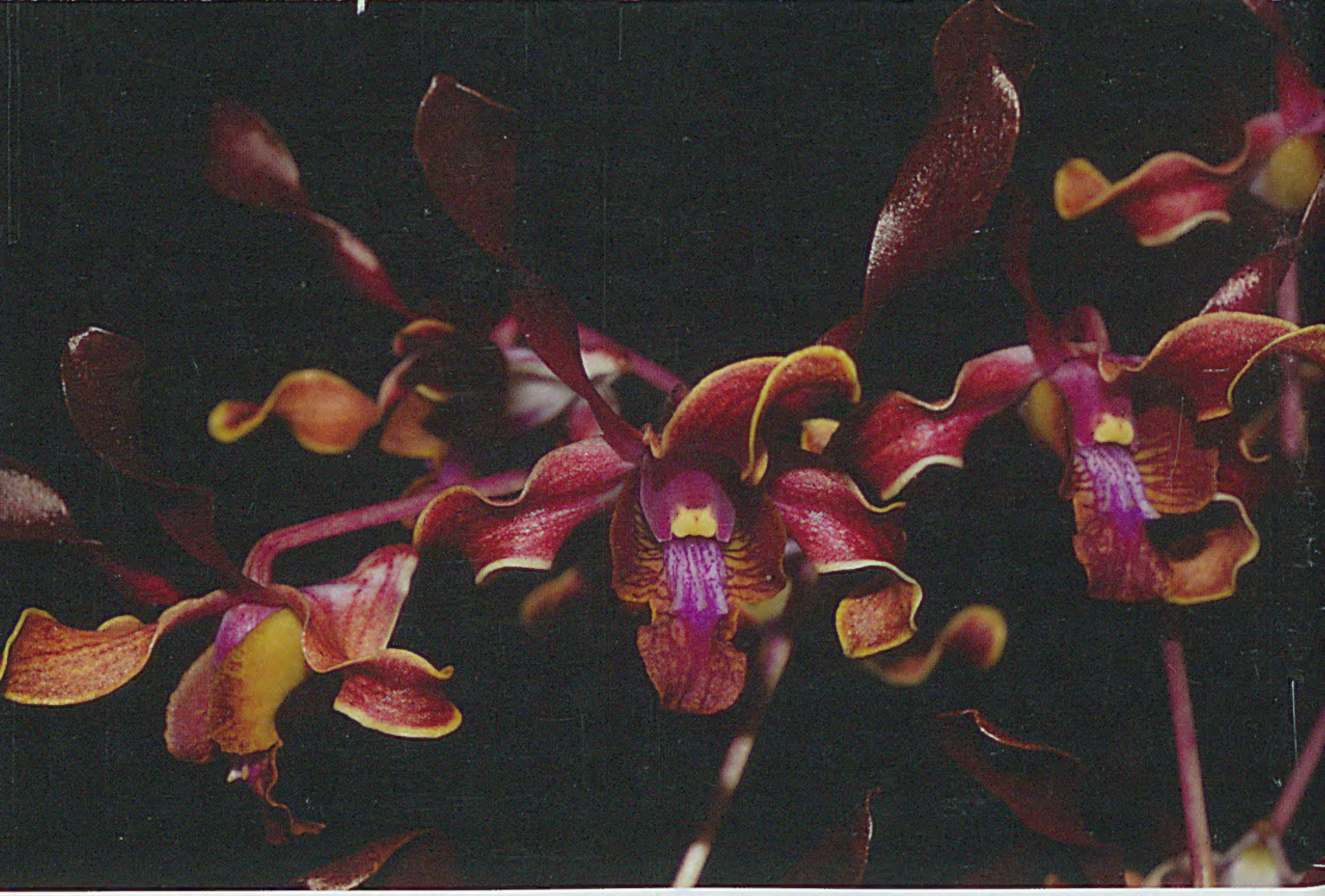

D. Cherub x *D. tangerinum* (above) and *D. macrophyllum* (below), both exibited at Diamond Festival, Queensland 2016 Photos Peter Adams